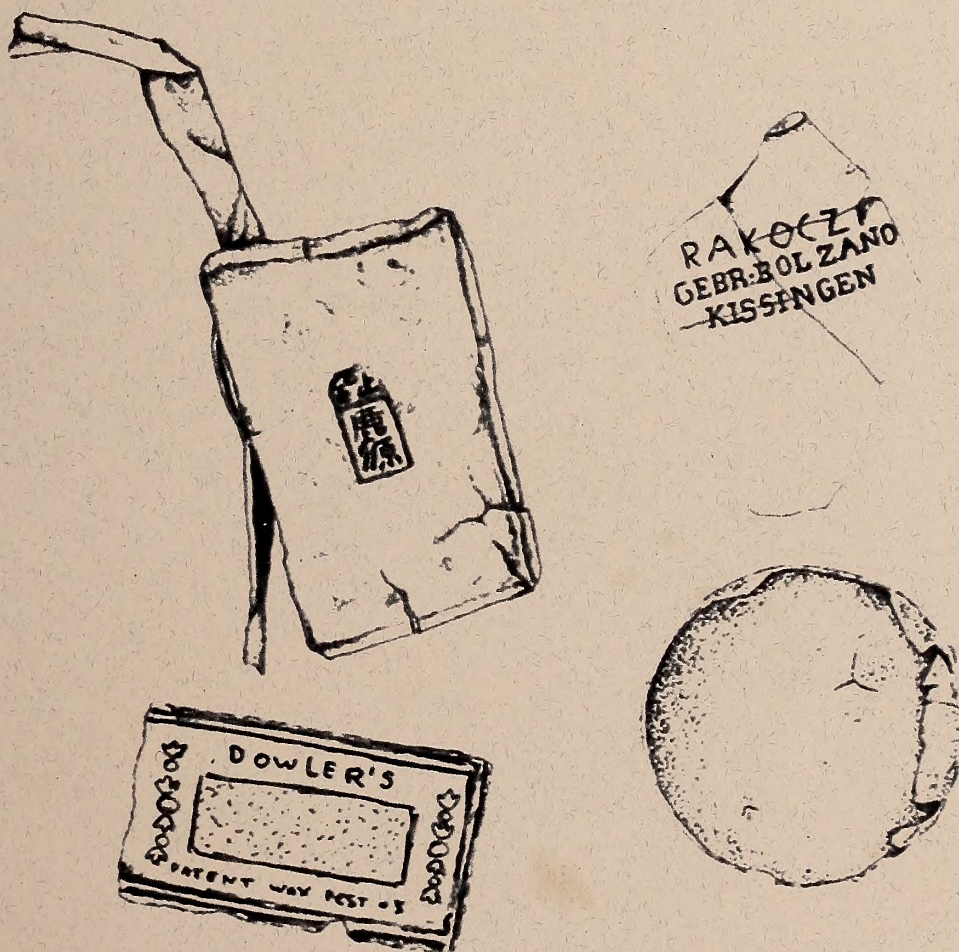




Archaeology of a Chinese Mining Camp (Site CA-SIS-1801-H)

Located near Hawkinsville/Yreka,
Siskiyou County, California



Report by:

**Jeff LaLande, Eric W. Ritter, and
James J. Barnes**

*Cultural Resource Publications: Archaeology
Bureau of Land Management, Redding,
California*

2015

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Abstract

Archaeological Site CA-SIS-1801-H consists of the remnants of a Chinese gold-mining camp and its apparently associated mining evidence. This site, which is situated in north-central Siskiyou County, California, is now privately owned land. Previously, it was a parcel of federal public land administered by the Bureau of Land Management (BLM). A proposed land exchange that involved transfer of the site area to private hands necessitated BLM's archaeological investigation of the site in 1995. This report documents the results of the BLM work, which was concentrated within an apparent trash deposit.

Analysis of the excavation's results indicates that the site was likely used by a small number of individuals, and for a relative short period of time, apparently around 1880. The assemblage of artifacts points to a number of activities having occurred at the site; these ranged from preparation and consumption of meals to indulgence in opium and alcohol. The artifacts allow some interpretations of Site CA-SIS-1801-H's place as one miniscule node within an essentially global commercial/transportation network of Chinese, American, and European goods.

In addition, based on the assemblage's plentiful nails and their size ranges, the site probably contained at least one small, wood-frame structure. The mining features located at the site permit some interpretations of the small-scale placer-mining techniques employed by the occupants of CA-SIS-1801-H.

Abstract

A study was conducted to determine the effect of a 12-week training program on the physical fitness of 15 sedentary individuals. The program consisted of three sessions per week, each lasting 45 minutes. The sessions included cardiovascular exercise, strength training, and flexibility exercises. The results of the study showed that the participants experienced significant improvements in their cardiovascular fitness, strength, and flexibility after the 12-week program. The study also found that the participants experienced a decrease in their body mass index (BMI) and an increase in their resting heart rate. The study was limited by the small sample size and the lack of a control group.

The study was conducted over a 12-week period. The participants were divided into two groups: a training group and a control group. The training group performed three sessions per week, each lasting 45 minutes. The sessions included cardiovascular exercise, strength training, and flexibility exercises. The control group did not participate in any training. The results of the study showed that the training group experienced significant improvements in their cardiovascular fitness, strength, and flexibility after the 12-week program. The study also found that the training group experienced a decrease in their body mass index (BMI) and an increase in their resting heart rate. The study was limited by the small sample size and the lack of a control group.

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Acknowledgments

In addition to Eric Ritter, the individuals involved in the field work at Site CA-SIS-1801-H included volunteers Julie Burcell, Ilene Emry, Blossom Hamusek, Julie Pfilf, and Orsola Silva.

The cataloging and labeling was overseen by James Barnes, with assistance from volunteers Patrick Heiman, Trish Moehle, and Anna Yoder. Clint Emry did the highly accurate line drawings of the artifacts.

Krislyn Taite conducted the analysis of the faunal material from the project. Chelsea Rose, of the Southern Oregon University Laboratory of Anthropology, provided a very helpful review of the close-to-final report.

Father Anthony Hutchinson, long-time resident of China and speaker of Mandarin, translated the Chinese characters, and Kathy Tyler prepared the site sketch map and aerial photo; she also formatted the final report for printing.

2. Introduction

The purpose of this study is to investigate the effects of the proposed system on the performance of the system. The study is divided into two main parts: a theoretical analysis and an experimental evaluation.

The theoretical analysis is based on the principles of the system and the results of previous studies. The experimental evaluation is based on the results of a series of experiments conducted under controlled conditions.

The results of the theoretical analysis and the experimental evaluation are presented in the following sections. The conclusions of the study are discussed in the final section.

The study is organized as follows: Chapter 1 introduces the system and the objectives of the study. Chapter 2 presents the theoretical analysis. Chapter 3 describes the experimental setup and the results of the experiments. Chapter 4 discusses the conclusions of the study.

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Located near Hawkinsville/Yreka, Siskiyou County, California

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2015

I. Introduction

Purpose and Scope

This report documents the results of the archaeological investigation of Site CA-SIS-1801-H, the Hawkinsville/Yreka Ditch Chinese Miners Camp.

Archaeological recovery, which included both surface collection and excavation, was conducted in 1995 by Bureau of Land Management (BLM) archaeological specialists from the BLM's Redding Field Office; they were assisted during the fieldwork phase by several volunteers. The subsequent laboratory-phase of the project (e.g., labeling, categorizing, and analyzing the recovered artifacts) took place, as staff time became available, during 1996-1999.

A draft report was prepared by the BLM specialists in 1999, but various factors (e.g., the transfer of one of the authors to a new duty station, increasingly limited funds and staffing for cultural-resource projects, and the ongoing press of higher-priority BLM cultural-resource compliance work) caused the project's final report to be delayed until now.

The two preparers of the 1999 draft report are shown as co-authors of this 2015 final report because it draws heavily in a number of sections from their draft. In 2014 the BLM contracted with LaLande (who also had previous experience conducting archaeological investigations of Chinese mining sites, in the Applegate River Valley of nearby southwestern Oregon) to review the past work at Site CA-SIS-1801-H and, using substantial parts of the 1999

draft, to prepare this final report. In 2014, with permission of the land owner, LaLande (with Ritter) made a brief visit to the site, which has been in private ownership for two decades.¹

Reasons for the Project

Acting under the requirements of the National Historic Preservation Act, and prompted by a proposed land exchange (referred to in official records as the Silva Land Exchange), the BLM conducted a cultural-resource survey of the BLM parcel in question.

This 1995 survey (Berg 1996) discovered the surface remains of what proved to be a shallow archaeological site associated with an apparently brief occupation by nineteenth-century Chinese gold miners. Initially, the BLM evaluated Site CA-SIS-1801-H (due to its surface's apparently sparse contents and past disturbance) as not meeting the significance criteria of the National Register of Historic Places.

Because of the lack of the legally mandated timely response from the California State Historic Preservation Office to the BLM site evaluation, the land exchange was approved by BLM line officers and thus proceeded to completion. However, in the interests of archaeological data-recovery and before the legal transfer of land ownership became effective, BLM archaeologists undertook the investigation documented in this report.

Summary of the Project

The archaeological fieldwork at Site CA-SIS-1801-H occurred over a three-day period in November 1995. Aside from the apparent refuse deposit, which was investigated at that time, the site area includes several, apparently contemporary, mining-related features (feeder ditch, small-capacity reservoir for storing water, and "ground-sluiced" placer-mine excavation); however, these features were not subjected to detailed archaeological examination at that time, nor were they able to be measured or adequately documented during the brief 2014 site visit.

Due to the lack of recognizable *habitation* features (e.g., possible tent platforms or structural footings) on the ground surface, both the investigation's surface-collection process and its excavation efforts were concentrated within the densest area of an evident refuse/trash deposit. The cultural evidence in this feature turned out to be less than 15 centimeters in depth.

¹ In addition to various modifications made throughout the draft report's narrative, LaLande's main contributions/modifications to the draft report are largely confined to much of Sections III and IV, certain portions of Section VI, and all of Sections VII and VIII (which had been only tentatively presented in the 1999 draft).

The archaeological investigation of Site CA-SIS-1801-H yielded over 4,200 artifacts. Many of these items consist of very small fragments of glass bottles and small pieces of ceramic food-containers, dishware, and opium-pipe bowls. These numerous glass and ceramic fragments likely represent an estimated total of between 37 and 40 individual items, largely glass bottles and ceramic bowls/containers. The collection's total of >4,200 items also includes a number of sheet-brass pieces (representing at least eight individual opium containers), as well as over 3,000 heavily rusted, whole or fragmentary cut ("square") nails. The investigation also yielded relatively plentiful, if very fragmentary, faunal remains (the comparatively few identifiable specimens are largely skeletal remains from pig and cow, with a very few of them being from fowl, probably chicken).

The results do permit some conclusions -- about the likely date-of-use of Site CA-SIS-1801-H, the apparently short span of time of the site's probable occupation, the evident types of activities that occurred at the site, and other aspects of CA-SIS-1801-H's function, as well as some evaluation of this small site's place within the broader context of the still-growing realm of archaeology of Overseas Chinese in the late-nineteenth-century American Far West. These interpretations are presented later in the report.

Note: In part due to the limited time and funding available for this final report to be prepared, the pages that follow avoid any broad theoretical approaches and forego wide-ranging comparison of the investigation's results with those from other sites. As a site report, the interpretive focus is relatively narrow and is confined almost exclusively to the site itself -- particularly to what conclusions can be drawn about activities that occurred at the site.

II. Setting

Location and Environmental Context

The Hawkinsville/Yreka Ditch Chinese Miners Camp, Site CA-SIS-1801-H, is situated in Siskiyou County, California. It is close to the historic mining hamlet of Hawkinsville, which is located on County Road 263 three miles north of the Yreka city limits. The site lies within Township 45 North, Range 7 West, MDM, and is mapped within the Badger Mountain 7.5' USGS topographic quadrangle.² (See Map 1.)

Site CA-SIS-1801-H -- the visible cultural evidence of which is encompassed within an area about 70 meters in diameter -- is situated at an approximate elevation of 2,700 feet above sea level. It is located on a gentle, east-aspect ridge crest near the base of foothills that rise steadily to the west (rising from the channels of Yreka Creek and the Shasta River) to form the Scott Bar Mountains, a sub-range of the Klamath Mountains. In the Yreka vicinity the largely metamorphic geology of the Klamath Mountains is notable for its gold-bearing deposits (both bedrock and alluvial), which resulted in an intensive local history of mining dating from the early 1850s well into the twentieth century.

The site vicinity experiences by far most of its (comparatively low amount of) annual precipitation between late October and March; most of the remainder of the year tends to be extremely dry. The Site CA-SIS-1801-H vicinity is immediately south of the watershed basin of four "parallel," seasonal/ephemeral streams: Long Gulch, Rich Gulch, Canal Gulch, and Rocky Gulch.³ These four, eastward-draining stream courses all empty, within a very short distance of each other, into Yreka Creek, which flows into the Shasta River a short distance to the north. To the west, just beyond the approx. 4,000'-high watershed divide at the head of the Long/Rich/Canal/Rocky Gulch basin, is the more mountainous and higher-elevation Humbug Creek drainage, which empties directly into the Klamath River, a few miles downstream from the mouth of the Shasta River.

Immediately to the east of the site vicinity's low-foothills location is the stream course of Yreka Creek, a northward-draining tributary of the Shasta River, which in turn flows four miles further northward to join the Klamath River (joining the Klamath 4-5 miles upstream from the mouth of Humbug Creek). Further to the east of the site, rising beyond the channels of Yreka Creek and the Shasta River, are the more recent, volcanic (and mostly "gold-free") rocks of the Cascade Range. Dominating the general area's skyline to the south is 14,163'-high

² Site CA-SIS-1801-H was originally named, by the site recorder in 1995, as "Hawkinsville Haven."

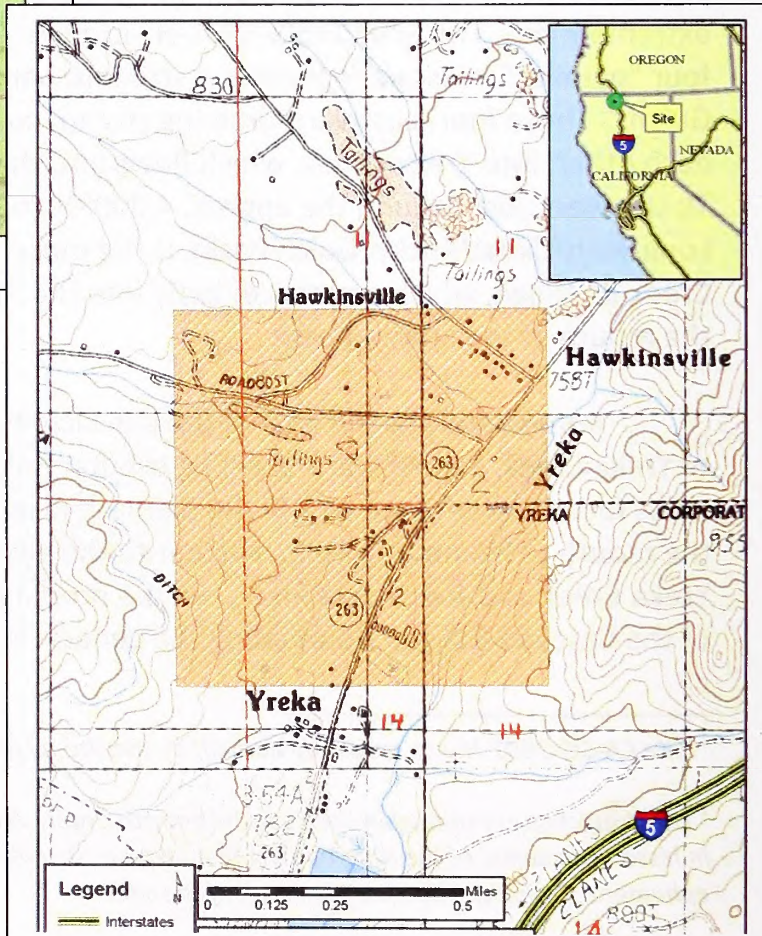
³ These gulches are named in their south-to-north order. A drainage called China Gulch is mentioned several times in historic accounts of the area but is not shown on current maps; it may have referred to what is an un-named ephemeral drainage immediately south of the site.

Maps 1-a and 1-b.
Hawkinsville Vicinity of CA-SIS-1801-H

Map 1-a



Map 1-b



Mount Shasta, an immense Pleistocene-age stratovolcano (and second only to Washington's Mt. Rainer in elevation among the entire Cascade Range's many peaks).

Vegetation of the site vicinity is dominated by oak savanna and oak/pine woodland. Oregon white oak (*Quercus garryana*) and ponderosa pine (*Pinus ponderosa*) are the dominant tree species, with some juniper (*Juniperus occidentalis*), as well as ash (*Fraxinus latifolia*) and cottonwood poplar (*Populus trichocarpa*) along the stream courses (due to early logging, pine in the Yreka-foothills area has become a lesser component of the community than it would have been a century or more ago). Major shrubs include manzanita (*Arctostaphylos viscida*), buckbrush (*Ceanothus cuneatus*), and poison oak (*Toxicodendron diversiloba*). Two species of non-native trees planted by early Euro-American and Chinese settlers, black locust (*Robinia pseudoacacia*) and tree-of-heaven (*Ailanthus altissima*), have proliferated in certain locations, but are not found within or adjacent to the site area.

Mammals currently present *and* native to the area include blacktail deer, black bear, coyote, cougar, bobcat, jackrabbit, and brush rabbit, as well as a variety of mustelids and rodents; elk were once common and are slowly returning to higher elevations of the Klamath Mountains. Formerly, pronghorn antelope occupied the nearby Shasta Valley and bighorn sheep were found in the area's mountain-slope grasslands; early-day hunting by Euro-Americans locally decimated the pronghorns, and diseases carried by domestic sheep eliminated the bighorn population. Ranchers extirpated the area's grizzly bears and wolves by the 1890s and the 1930s, respectively. Both anadromous and native fish were previously present in Yreka Creek and the Shasta River's massive irrigation-water withdrawals caused a substantial decline in both their numbers and their habitat. Birds include a wide variety of passerines, as well as California quail. Hawks, owls, ravens, and waterfowl are plentiful; the formerly common California condor has been absent for over a hundred years.

Likely Physical Impacts to Site CA-SIS-1801-H

During the latter decades of the nineteenth century and on into the early twentieth century, Hawkinsville survived as an occasionally vibrant – i.e., during periods when mining was most active -- if very small mining and ranching community. The Hawkinsville area contains numerous piles of placer-mining tailings, including some close to CA-SIS-1801-H.

Following the late-nineteenth-/early-twentieth-century period of mining-ditch construction and placer-mining work (activities that occurred near the site during or around the time that CA-SIS-1801-H was occupied) actual physical impacts to the site area and its cultural deposits seem to have been relatively minor. By the 1890s the vicinity was probably used by cattle as part of wider rangeland grazing in the lower Long/Rich/Canal/Rocky Gulch area. By at least the 1920s-1940s or so, barbed-wire fencing apparently crossed through the area; the effects of grazing and fencing would have been modest. Some logging of the immediate site vicinity's few pines (for lumber) as well as cutting of the far more numerous, larger-diameter oaks for firewood would have occurred. Prior to the era of effective fire-suppression (i.e., post-

1920), the surrounding area would have been prone to relatively frequent, low-intensity fire. Such fires could have destroyed any abandoned wood-frame structures that had been built at the site. Alternatively, later miners might have scavenged the lumber, boards, and straight nails for their own purposes or, if any abandoned structures proved hazardous to livestock (e.g., shade-seeking cattle falling through rotted floorboards), the structures might well have been dismantled/salvaged and/or burned by ranchers or other nearby residents. Decades of fire suppression have likely contributed to the current dense growth of buckbrush *Ceanothus*, both at the site and across the wider vicinity.

The site area contains a few abandoned household appliances and other debris from illegal dumping; these are concentrated in the northeast part of the site, close to the “ground-sluiced” placer-mining area. Following the land transfer a private residence was constructed downslope and to the east of the site. It is probable that the site was subjected to at least some amount of periodic, unauthorized artifact collection, certainly including surface collecting and perhaps some modest amount of excavation.

Photo 1. View to the south-southeast from within the site area. (**Photos 1-20** taken 2014.)



Photo 2. View to southeast from site area; Yreka Creek flows northward (left) in middle-ground of photo (Shasta River flows parallel, but on opposite side of far ridge).



Photo 3. View to the east-northeast from the site vicinity, showing 20th-century tailings pile in the middle-ground and the site of Hawkinsville (in distance beyond the far pine trees).



Photo 4. View to west-northwest of Site CA-SIS-1801-H; figure is standing near west edge of Feature 1, which extends into foreground, as well as to the right out of this view. This photo replicates same approximate view as Photo 21, from the 1995 excavation.



Photo 5. View is approximately the same direction and photo-point as Photo 4, Showing more of the vicinity of Feature 1's level area (possible structure location?) and beyond.



Photo 6. Artifacts found on surface of site in vicinity of Feature 1:
Clockwise from top: opium-pipe fragment of burnished redware; fragment of CBGS ceramic; white ceramic/glass Prosser button; fragment of "Double Happiness" rice bowl.



Photo 7. View north/upslope from the south side of the ridge crest, showing location of main part of CA-SIS-1801-H (Feature 1) situated among the oak and juniper trees right of center. Feature 2 (the ditch) passes eastward (i.e., from left-to-right in this view), just beyond the base of the tall pine tree on the left. To the right of the Feature 1 clump of trees, the ditch begins its curve to the north (crossing the crest of the ridge to the right of the right-hand oak tree) and then continues to the northwest, on the far side of Feature 1 and near the top of the ridge's north-aspect slope.



III. Background: Historical Context of the Vicinity

History of north-central Siskiyou County

Information in this section is drawn from a number of sources, including: Fiorini-Jenner and Hall (2002), French (1915), Jones (1953 and 1971), McDonald (1979), Tickner and Fiorini-Jenner, (2005), Wells (1881), and various issues of the Siskiyou County Historical Society's *Siskiyou Pioneer*.

Prior to the arrival of Euro-American fur trappers in the 1820s-1840s, followed by gold miners and agricultural settlers in the 1850s, the Yreka vicinity was inhabited by the Shasta, a Hokaan-speaking people. The Shasta were apparently direct descendants of earlier Hokaan-speaking people that likely lived in the vicinity and over a wider surrounding region for well over 6,000 years, replacing pre-existing Paleoindian groups who likely would have arrived in the area prior to 11,000 years ago. The Shasta lived here for centuries by means of hunting, gathering, and fishing (Silver 1978:211-224).

Permanent Euro-American presence in what became Siskiyou County began in 1850 with the expansion of the California Gold Rush from the foothills of the Sierra Nevada Mountains northwestward into the Klamath Mountains. Abraham Thompsons' gold discovery in March 1851 at a place initially called "Thompson's Dry Diggings" (due to the scarcity of water for placer mining of the alluvial deposits) led to the establishment of a mining camp soon renamed (briefly) Shasta Butte City and then Yreka (Silva 2001). Placer deposits were found at various other locations along Yreka Creek and its tributaries during the 1850s. In order to bring sufficient water to mine these many deposits, starting in 1853, a group of local entrepreneurs operating as the Yreka Water Company, extended their Yreka Ditch (or "Big Ditch") northward from its diversion point on the upper Shasta River, reaching Yreka in 1856. This endeavor, which employed Chinese as well as workers of other ethnicities, was a huge enterprise. Later, by 1880, at 95 miles in length, the Yreka Ditch had reached its ultimate terminus near Hawkinsville (Silva n.d.).

The California-and-Oregon Railroad, building north from California's Central Valley, reached Siskiyou County's Shasta Valley in the early 1880s; the tracks over the rugged Siskiyou Divide to Oregon were completed in 1887. East and southeast of Yreka/Hawkinsville, the broad Shasta Valley filled with cattle ranches. With big irrigation projects after 1900, the volcanic soil of this semi-arid vicinity produced substantial crops of alfalfa hay.

Hawkinsville: Among the several gold strikes along sections of Yreka Creek during the early 1850s was one a few miles north of Yreka, at a place initially called "Frogtown." This mining camp was renamed Hawkinsville in the early 1860s in honor of an elderly, respected local resident, Jacob Hawkins. During the 1850s-1860s, local Shasta Indians had continued to live as dispersed families and individuals within an extensive area centered on Yreka, where

various Native people would periodically arrive at a location just north of the town, close to Hawkinsville, for purposes of trade and socializing. Old or new enmities could erupt at these occasions, and in 1863, a small group of Shastas ambushed and killed three Modoc men who were passing near Hawkinsville on their way to Yreka (Jones 1953:118).⁴

Although it possessed a small school by 1856, Hawkinsville -- due to its location quite close to Yreka (Siskiyou County's main commercial center and county seat) -- never supported the somewhat more extensive commercial infrastructure as did other small, but more distant mining communities in Siskiyou County. Because of this short distance, one Yreka entrepreneur named William Sullaway operated a successful Yreka-Hawkinsville stage service for nine years; it travelled regularly between the two towns, running during times of high demand every half hour. By the 1860s-1870s Hawkinsville supported at least one store, a saloon, a number of residences, and (very briefly) the office of a physician, Dr. A. M. C. Smith, as well as the boarding-house and the headquarters of the Yreka Creek Mining Company's final (and most northerly) hydraulic operation. A number of the Yreka Creek Mining Company's employees were Portuguese immigrants; in the 1870s they purchased an 1858 brick commercial structure in Hawkinsville and converted it into a Roman Catholic church (standing today, it is the only surviving remnant of historic Hawkinsville; descendants of those Portuguese immigrants still remain in the Hawkinsville/Yreka vicinity).⁵

Chinese immigrants had become part of the mining population of the Hawkinsville vicinity by no later than the mid-1850s. Jones (1971:79) places their initial arrival in Yreka at 1853; one of the Hawkinsville vicinity's early place-names, China Gulch, testifies to their presence. Inter-ethnic conflict during Hawkinsville's late nineteenth-century mining period is attested to by at least one documented episode of violence between Portuguese and Chinese miners, in which one of the Chinese was shot to death; the dispute erupted over water rights and the Portuguese groups alleged attempt to illegally extend their ditch through the Chinese claim (*Yreka Journal* 12/6/1871; Hendryx and Rock 1990:78).

Humbug Creek, located directly west (over the 4,000'-high watershed divide) from the Hawkinsville's mines, possessed a larger watershed and higher-elevation headwaters than the Hawkinsville area's seasonal gulches; it witnessed a great deal of late-nineteenth-century hydraulic gold mining, resulting in dramatic and lasting impacts to the landscape there.⁶ Like other diggings along Yreka Creek, the Long/Canal/Rock Gulch watershed (because of its far

⁴ Enmity between the Shasta and the Modoc was long-standing from before the arrival of the first Euro-Americans.

⁵ During the 1890s one mine in the Hawkinsville vicinity was called the "Brazil Mine" (Cooper 1898); this name calls into question whether the area's Portuguese-speaking residents came to Siskiyou County from Portugal itself, from the Azores, or whether they might have originated from Portugal's South American colony of Brazil.

⁶ This particular stream is one of two Humbug Creeks that are situated in close proximity to each other. This one, west of Hawkinsville, flows northward directly into the Klamath River; the other is a much shorter stream that flows easterly through the town of Yreka to join Yreka Creek.

more limited amount of water for hydraulic and other types of placer mining) necessitated investment in water transport. Construction of lengthy canals, such as the Egbert Ditch and the Yreka Ditch/"Big Ditch" (not extended north to the Hawkinsville area until the 1870s), conveyed substantial if only seasonally available quantities of water northward, along the contours of the lowest foothills of the Klamath Mountains, for the purposes of hydraulic and other forms of placer mining along Yreka Creek and its tributaries.⁷ During the later years of the nineteenth century, Euro-American miners and mining companies sold a number of by-then seemingly exhausted placer deposits to Chinese miners, who worked them diligently.

With much larger, richer gold deposits (and abundant water for mining them) found well to the west, deeper into the Klamath Mountains (e.g., the Scott River, Salmon River, and Klamath River canyons), hydraulic (as well as some hard-rock) mining had spread to those parts of northwestern Siskiyou County in the 1870s-1880s. Some of these large-scale operations continued into the early 1900s, followed by major, motorized dredge (and motorized trommel/"dryland dredge") mining during the Great Depression.

Shortly after the turn of the twentieth century, the Oregon and California Power Company built a small hydroelectricity-generating facility on the lower Shasta River north of Hawkinsville. Other than some dryland-dredge/trommel mining along Long Gulch and desultory "sniping" during the Depression and early post-War years, mining in the Hawkinsville vicinity was largely over by 1910, and the once-busy community steadily declined into a small residential outlier of Yreka. By around the 1960s, Hawkinsville had evolved into its present character: a scattering of relatively inexpensive houses and outbuildings – most of them built during the early Post-WWII era and inhabited by residents of generally modest economic means. The community's Portuguese Holy Ghost Festival and Parade still brings visitors each July from throughout the county and beyond.

The Chinese Presence at Hawkinsville: The Chinese presence at Hawkinsville is documented by a number of written sources. For example, in his pioneering account of Siskiyou County's youthful history, Wells (1881:194) listed the following seventeen mining operations in the Hawkinsville vicinity for the year 1880:

Yreka Creek Mining Co. working in bed of creek w/ an elevator.....Ah Toy & Co., wheelbarrow claim.....William Booth claim, below the Yreka Creek Mining Co., only a part being worked by Chinese....One Chinese and one Portuguese company in Long gulch....John DeSoza Co. and three Chinese companies in Canal gulch....Manuel Quadras & Co., and John Josephs & Co., in Rocky gulch....Joseph Cora & Co., John Demello & Co., Enos Castro

⁷ The Yreka Ditch, long abandoned in the Hawkinsville area, passes several hundred meters to the west (and directly upslope) of Site CA-SIS-1801-H.

*& Co., Caetano Alves & Co., Thomas Greenwood, Manuel S. Dutra & Co.,
on the Hawkinsville Flats.*

The account book from a Euro-American-owned store at Hawkinsville (copies on file: BLM-Redding and the Siskiyou County Museum in Yreka) contains entries for the years 1883-1885, 1887, and 1890-1891. The names listed in the Hawkinsville Store ledger include those of several Chinese customers, including: Hook Fook and Company, Fong and Company, Ah Yapp and Company, Ah Yuk and Company, Ah Pone[?], Goom Soon, Hop Chung and Company, Big You, Ju Lu and Company, and Fo Loba[?] and Company. Apparently outfitting their work camps, most of the customers' entries simply give "freight" and "sundries" as their items of purchase, but rice, flour, and other foodstuffs are listed as well. Interestingly, the last two names are the only Chinese names shown in the much more detailed and lengthier accounts for 1890-1891, probable evidence of a major decline in number of the community's Chinese residents.

IV. Background: Historical and Archaeological Context of the Overseas Chinese

Chinese on the Far West's Mining Frontier, 1849-1900: History and Historical Archaeology

History: The overall history of Chinese immigrants to America's Far West during the second half of the nineteenth century (including, overwhelmingly, their geographic origin in the Pearl River Delta area of southeastern China, as well as their reception and treatment by Euro-Americans) has been presented in many sources published since 1960. For examples, see Barth (1964; although dated, it remains useful), Chinn and Choy (1969), Lee (1960), Miller (1969), Saxton 1979, Hsu (1971), and Zhu 1997); although these have provided background for this section, they are not further cited.

During the nineteenth century, because of the profound pull of the California gold rush, many Chinese came to call the American Far West *Gum Shan*, "Gold Mountain"; it was gold mining specifically that brought most of the first wave of Chinese immigrants in the mid-nineteenth century. Mercantile businesses and other specialized endeavors, particularly in large cities, brought relative wealth to a few Overseas Chinese during that period and later. In addition to continued gold mining, other manual-labor enterprises employed many Chinese workers during the late nineteenth century. These included physically challenging "gang labor" work on Western railroad-construction projects, in salmon canneries, and so forth. However, it was California's initial gold-mining rush that brought the first Chinese manual laborers to the United States; gold mining continued to employ many of them throughout the Far West during the remainder of the century. Additionally, in terms of the *kind* of gold mining they participated in, Chinese were largely confined to placer (including hydraulic) mining and its associated activities (e.g., digging lengthy ditches and building earthen dams for hydraulic-mining reservoirs); they were not customarily employed (at least not in significant numbers) in "hard-rock" (i.e., underground or lode) mining for gold, silver, or other precious metals.⁸

⁸ Most large-scale "hard-rock" (lode) mining in the Far West for gold, silver, lead, and so forth did not get underway until the 1870s and later, by which time a sizable and influential anti-Chinese labor movement by White miners flourished. (This movement included a number of episodes of violence, including the mob-led murder of Chinese immigrants who were seen as "unfair" [i.e., lower-paid] competitors for jobs during difficult economic times.) Hard-rock mining often involved heavy capitalization by owners to support the "industrialized" methods using large work crews. By the 1870s-1880s, as opposed to hydraulic mining's ditch-digging, Euro-American laborers had often successfully claimed most of this underground work as exclusively their own (and as a result were sometimes able to demand higher pay from their capitalist employers). There were certainly exceptions to this situation, particularly when it involved low-skill, dangerous jobs underground; a major California example was the mining of cinnabar (the ore of mercury or "quicksilver"), especially at Santa Clara County's large and long-lived underground New Almaden Mine, in the rugged hills near San Jose; cinnabar mining and processing entailed working with a highly toxic substance, and Chinese laborers proved willing to do this work during the 1870s-1880s. For New Almaden, see: Bailey (1951), Johnson (1963), and Splitter (1957).

Chinese immigrants that were engaged in placer mining tended to labor within either of two different situations: (1) working together as small, self-employed groups of placer miners, either on “fresh” (previously un-mined or barely worked) claims (i.e., when competing White miners did not push them off) or on previously worked placer ground that had been abandoned but still promised sufficient return to justify further “gleaning”; or (2) working in crews (often as contract laborers directly employed by Chinese firms) of workers (often ditch diggers/flume builders) for “White”-owned hydraulic-mining companies. If thus employed with actual mining work, the Chinese crews often worked during the night hours and were paid less than Euro-American crews. Not all large-scale hydraulic operations in the Klamath Mountains belonged to Euro-Americans. The well-known Chinese hydraulic-mine operator Gin Lin (whose headquarters were in Jacksonville, Oregon, less than forty miles north of Siskiyou County) co-owned numerous claims, hired large work crews, and steadily mined the placer deposits of the Applegate and lower Rogue rivers during a period of over twenty years.

As the Chinese Exclusion Act of 1882 (and subsequent legislation) steadily reduced the supply of Chinese labor in the United States, and as the alluvial deposits that had initially attracted placer miners became less productive, many of the Far West’s dwindling number of Chinese began to aggregate in local cities’ “Chinatowns.” In further reduced numbers, the remaining Chinese tended to re-aggregate into the less-isolated and truly urban Chinese neighborhoods of San Francisco, Portland, and Seattle. By the 1900s – i.e., aside from those relatively few Chinese individuals (e.g., store owners, laundry owners, restaurant owners) who had successfully made permanent their long-term residence in some of the West’s smaller mining or other rural communities – the overwhelming majority of Chinese immigrants to the mining regions of the Far West had already left for the West’s big urban centers and/or returned home to China.

Archaeology: The field of “Overseas Chinese Archaeology” in the United States began in earnest by the mid-1970s; it expanded greatly during the 1980s-1990s (for a comprehensive bibliography, see Schulz and Allen 2004; posted on-line and periodically updated since initial publication). Typically, the earlier site-specific investigations occurred because of project-mitigation (i.e., archaeological data recovery) that was required under the National Historic Preservation Act’s Section-106 compliance process prior to proposed ground-disturbing projects, and that is a trend that has continued. During the 1990s the study of Overseas Chinese sites in the Western United States was described as among the fastest growing sub-fields in American historical archaeology. Some of this now four-decades worth of archaeology has investigated former Chinese communities in large urban settings. Located primarily in California, these “Chinatown” studies include those for Ventura, Riverside, Sacramento, Los Angeles, and elsewhere in the state (see Greenwood 1996; Praetzelis and Praetzelis 1997; Schulz and Allen 2004) -- including, more recently, San Jose, where a number of studies of previously (mid-1980s) excavated (but then as-yet unanalyzed) materials (see Voss 2008) have marked a major advance in Overseas Chinese urban archaeology.

Other Overseas Chinese archaeological projects in the Far West, often situated on federal land and in comparatively remote terrain, focused on much smaller sites (typically work camps)

associated with various endeavors ranging from shrimp and abalone fishing, salmon canning, and sawmilling to mining and railroad construction. Of these, gold-mining sites have accounted for a significant portion of archaeological projects. For example, the collection of 14 Overseas Chinese archaeological essays edited by Wegars (1993) includes seven non-urban, site-specific studies, of which six are either mining or mining-related sites (four located in Idaho; one in California's "Mother Lode" country, and one in New Zealand). From the various Chinese mining-site investigations, a few archaeological studies have addressed actual mining techniques/processes that were used and the resulting features left on the landscape; for examples see LaLande (1981 and 1985), Rohe (1994 and 1996), Tordoff (1987), and Valentine (1999 and 2002); for a historian's perspective on Overseas Chinese mining techniques, see Zhu (1999).

Only two previous (and published) archaeological investigations of the Overseas Chinese have occurred within the Klamath Mountains of Siskiyou County, California, or in the adjacent Klamath/Siskiyou Mountains of southwestern Oregon; these studies are briefly discussed in a sub-section that follows. However, published studies on Chinese-mining sites located *elsewhere* in these two states are available; these include, for northern California (exclusive of Siskiyou County): Bente and Smith (1984; as well as Johnson and Theodoratus [1984]; both deal with Chinese mining camps at Dutch Gulch/Cottonwood Creek, Shasta Co.); Brott (1982; a Chinese store in the mining town of Weaverville, Trinity Co.); Markley (1992, Chinese mining camps on the North Yuba River, Sierra Co.); Pierson (2008; two Chinese mining camps a short distance west of Redding, Shasta Co.); Ritter (1986, Chinese mining camp near Igo/Redding, Shasta Co.); Sundahl and Ritter (1997, two other Chinese mining camps a short distance west of Redding, Shasta Co.); and Tordoff and Maniery (1989; Chinese camps in Butte Co.). For site-specific archaeological studies in the Blue Mountains of northeastern Oregon, see Wegars (1994; Chinese mining camps in Grant Co.), Mead (1996; Chinese mining camp in Union County); and Hann (2014; the as-yet un-published analysis from work at a Chinese miners' site on the Middle Fork of the John Day River).

Archaeology in Siskiyou County, California, and adjacent Southwestern Oregon:

Within Siskiyou County and adjacent Jackson and Josephine counties in Oregon, the published archaeological literature (aside from the present Hawkinsville site report) includes two studies of the Overseas Chinese – both of them located at sites either directly or substantially associated with gold mining -- at Yreka (Farris 1979) and in southwestern Oregon's nearby Applegate Valley (LaLande 1981, 1982, 1985), as well as one unpublished report on the Yreka Chinatown (Helvey and Felton 1979).

Much more recently (2013), however, two archaeological investigations have occurred in the region: one at another Siskiyou County gold-mining camp, McAdams/Deadwood (CA-SIS-5097H), by the Northern California Resource Center (Tyler p.c.), and another at the former Chinese quarters of Jacksonville, in Jackson County, Oregon, by the Southern Oregon University laboratory of Anthropology (Rose, p.c.). Analysis of material recovered from both sites is still in-progress and results as-yet remain unpublished. In contrast to Hawkinsville, these two

projects have yielded relatively large amounts of data. Nevertheless, perhaps the results of the Hawkinsville project may help in some fashion to elucidate the material recovered at Deadwood and at Jacksonville.

Site CA-SIS-1801-H is the only Chinese site in the immediate Hawkinsville area to have been archaeologically investigated. Other such sites may well be present, especially on privately owned land. At Hawkinsville's community center building are extensive parking areas immediately to the west and the east of the structure; these consist of un-paved surfaces, and appear to be composed of heavily re-graded soil, some of which was probably excavated from elsewhere nearby and brought by dump trucks to this location. The surfaces of these parking areas contain an abundance of small, fragmented artifacts. Some of these items are relatively recent in age, but others definitely date to the late-nineteenth century and/or very early-twentieth century; many of these clearly are of Chinese origin, and include very small fragments of the expected variety of Chinese-made ceramics (food containers, dishware, and opium-pipe bowls).

Theoretical Perspectives in Overseas Chinese Archaeology: The recovery of artifacts resulting from the now-sizable body of archaeological work at numerous Chinese sites -- whether or not mining-related -- has yielded a distinctive, readily recognizable signature of material culture. This signature is composed of the seemingly ubiquitous and repeated presence of a characteristic assemblage of certain kinds of both Chinese and Euro-American items.

Overall, in terms of theoretical approaches, most of the Overseas Chinese archaeology in the Far West through the 1990s was concerned with questions such as ethnicity, aspects of drug/alcohol consumption, study of specific inter-/intra-site activities, and, more broadly, acculturation/non-acculturation with the dominant Euro-American culture. This has been true of both mining-site investigations as well as other types of Overseas Chinese sites. Certainly, the field of Overseas Chinese archaeology can and should further expand the focus of its research questions, as well as employ ever-more sophisticated understandings of artifacts of Chinese origin (e.g., Choy 2014) or even Overseas Chinese use of European/Euro-American-made ceramics (Chan 2013).

Another aspect of past archaeological work that has come into question is the "sojourner" concept (i.e., that the majority of Chinese immigrants did not arrive intending to remain in the United States, but to return to China, something that has been heavily supported in the historical literature on the Oversea Chinese). Use of the term "sojourner," as applied to the bulk of Overseas Chinese immigrants in America between 1851 and 1890, has come to be repeatedly criticized, and as a result it has now largely disappeared from recent archaeological reports. Some scholars' recent statements could be read as inferring that most 1850s-1880s Chinese immigrants came originally with the intention of remaining in the United States for the rest of their lives and/or that their incorporation of aspects of Euro-American culture was entirely voluntary and proactive. Although this "post-sojourner" approach certainly has many

original ideas and profoundly useful aspects, perhaps deeper recognition also needs to be given to how American exclusionary laws may have affected the previously “sojourner-intentioned” Chinese immigrants and their decisions to remain and not return home. In addition, 1870s-1880s photographs of large groups of Chinese in American urban settings show the persistence of the detested Manchu queue; required by the Chi’ing Dynasty emperor for re-entry into China until after 1900. Also, could the Chinese merchant class in the urban West (a tiny economic elite that has been the subject of recent archaeological investigations) have been considerably more likely to accommodate to “foreign” ways than often-itinerant laborers (i.e., except, ironically, when those laborers found themselves working in remote locations where access to Chinese goods was limited)? These and other questions should also be explored.⁹

⁹ Recently, even use of the term “Overseas Chinese” has apparently come to be questioned by some archaeologists, evidently as somehow denying the inescapable and obvious fact of varying amounts of cultural change by nineteenth-century Chinese immigrants living in the western United States (see Henry 2012). This report continues to use that term without apology, and without any assumption on the part of the authors that some forms of cultural change (either voluntary or reactive change, or combinations thereof -- including initial developments of a new Chinese-American identity -- were ever absent.)

V. Research Strategy and Methods

Research Design

The investigation at CA-SIS-1801-H was designed to acquire information concerning the extent, depth, artifact content, and integrity of CA-SIS-1801-H, focusing on what could be learned about the activities of its Chinese occupants, as well as to gain some idea as to the number of miners present and the approximate date of their presence at the site.

Because of these goals, the excavation strategy focused on the site's refuse/trash deposit area (identified as Feature 1), which – based on intensive surface survey and selective collection -- contained by far the greatest concentration and variety of artifacts on the site surface. Initially, a single 0.5mx0.5m shovel-test unit was placed about 2.5 meters southeast of the site datum (a white oak tree). In order to provide the maximum yield of contextual/intra-site information within the brief period of time available for the fieldwork, a series of five contiguous excavation units were placed within Feature 1: four 1m x1m units (#s1-4), a single 2mx2m unit (#5), all located within two meters north of the site datum. This resulted in controlled excavation of a total of eight square meters of the feature --encompassing what appeared to be, from surface indications, most of Feature 1. Because of the feature's shallow deposits, these eight square meters totaled less than 1.5 cubic meter of excavation.

Field Methods

Prior to the assignment of an official site number by the Northeastern California Archaeological Information Center at Chico State University, Chico, the site was referred to as "Hawkinsville Haven." The field work occurred in November 1995. Surface-collected items were identified simply by site number (i.e., they were not point-plotted or identified by collection units). Excavation of the four 1mx1m units and the one 2mx2m unit proceeded by arbitrary 10-centimeters levels. They were excavated down to sterile soil. Due to the very shallow depth of Feature 1's deposits, excavation of most units was halted at the bottom of Level 2 (20cm deep). The fieldwork excavated an estimated 75 percent of the Feature 1 refuse/trash deposit.

Many of the artifacts proved to be of large-enough size to be removed directly from a unit's soil during excavation of a level. Most of the soil was excavated with trowels, with all cultural, faunal, and floral items collected in paper bags labeled with unit number, level number, and other provenience information. The unit excavators kept notes, including Munsell-color determinations made by Ritter. Following excavation, the units were lined with plastic sheeting and back-filled with the units' excavated soil

The recovery of archaeological remains from CA-SIS-1801-H was a progressive undertaking dictated by the initial discovery of surface evidence, followed by small shovel

probes and a 0.5 m x 0.5 m shovel test unit. Subsequently, in the hopes of better determining the significance of the site, and so as to investigate a small area of concentrated cultural remains based on surface evidence an initial 1 m x 1 m unit was placed. This unit was found to contain a diverse array of archaeological evidence. The site was understood on the basis of this testing to have a degree of significance, but a measure determined not to be quite at the National Register of Historic Places *criterion "d"* level. It was then decided to conduct more testing, and this work was intended to serve as data recovery sufficient for mitigation of the land's transfer from the Federal Government to private hands. It was the field director's opinion that recovery of the main artifact/ecofact concentration (Feature 1, a presumed trash dump) would further the understanding of mining-related behavior by regional Chinese immigrants and their interplay with the dominant Euro-American culture present during the recognized late-nineteenth-century time period. This dating was based on archival research and observed artifacts.

To provide further recovery of the main artifact/ecofact concentration, four subsequent units were excavated. The second unit (2) was then laid out (as were all others) in a true-north/south orientation in another area of the concentrated remains. As the excavation built upon the discoveries of the first two units, other units (3 and 4) were placed between units 1 and 2, one of which (4) was 1.18 m x 1 m to allow for complete coverage of the central area of concentration owing to a survey error. The final unit (5) was a 2mx2m area contiguous with the other units to accelerate the process during the limited field time allowed. An estimated 75-80% of the concentration of cultural remains was recovered. The re-visit of the site in 2014 by two of us (LaLande and Ritter) indicated no further disturbances to the deposit, and there was a sparse surface scatter of artifacts similar to those recovered.

Each unit was laid out by engineering compass with metal pin corners and string lines. Excavation of the site's nearly horizontal surface was by arbitrary 10cm levels. Standard excavation by trowel, small pick, and skim-shoveling was undertaken with both the ¼"-mesh and 1/8"-mesh screenings. Units 1 and 2 utilized 1/8"-mesh screen. Unit 3 began with 1/8"-mesh screens, switching to ¼"-mesh, and – with the press of time limits -- the remaining two units were screened with ¼" shaker screens. Recovered materials were placed into labeled bags and unit level records were written and select photographs of the units and process taken. Materials were removed to the Bureau of Land Management in Redding and cleaned and catalogued there.

Laboratory Methods and Analysis

The recovered artifacts and other cultural material were sorted, cleaned (ceramic and glass items were washed with tap water and soft brushes), and catalogued at the BLM Redding Field Office. Accession numbers were assigned to the artifacts; to expedite the analysis many artifacts were given individual accession numbers while groups of similar items received common group-accession ("lot") numbers. With the exception of the faunal remains (largely bones), items were labeled with "white-out," nail polish, and black india ink. (A list of

accessioned artifacts is included in the BLM's archaeological ledger identified as S300 J 300, kept at the Redding Field Office.)

Each artifact was identified as to its probable function and (as feasible, by means of reference literature) as to its period of manufacture/use. *S. D. Kimbark's Illustrated Catalog* (1876: 90-92) served as a guide to identify the type and pennyweight of the cut square nails and to identify the tacks. Because wire (round-shank) nails of the late nineteenth century are indistinguishable from ones used today, an early Sears, Roebuck and Company's "Handy Chart of Common Fasteners" provided the means to identify and/or size-by-pennyweight these and other metal-hardware items in the collection.

Because many of the recovered artifacts are extremely fragmented, certain methods have been used to estimate the minimum number of objects (bottles, plates, bowls, opium cans, etc.) represented by the fragments. Bottle and other glass-container counts (minimum number of individual artifacts/MNIA) are usually obtained by tallying whole and almost-whole vessels, as well as those fragmentary items that clearly represent a single, discrete container. However, bases and embossed fragments were also used to estimate the minimum number of glass containers. Although glass color can be a poor indicator of minimum number of glass containers (because of differential weathering of scattered fragments of the same vessel), color was conservatively used to derive the counts. Generally similar methods were employed to estimate the minimum number of ceramic items represented by the ceramic fragments. The minimum number of opium cans recovered from the site was derived by counting the lids.¹⁰

With some modifications, a traditional scheme of artifact categorization and analysis was employed, one based on a combination of assumed function and material type. While virtually all of the recovered items came from a secondary deposit (i.e., a trash scatter), this scheme proved adequate to sort the artifacts into functional types and discern the activities that occurred at the site.

Krislyn Taite (at the time an archaeology graduate student) analyzed the faunal remains, using the archaeological-laboratory facility of California State University, Chico. Taite's report is included as Appendix A of this report. (The faunal remains, although curated with the rest of the collection, were not given accession numbers.)

¹⁰ *Measurements: Both metric and English measurement systems have been used in presenting some of the results of the investigation. The BLM archaeologists used metric measurements for unit lay-out and excavation. Euro-American-made items are measured with the English system, while Asian-made artifacts are described by metric measurements. The archaeological literature on the Overseas Chinese in the United States is inconsistent in use of the two measurement systems, but metric dominates. In the interests of comparability and consistency, metric was used for the Asian items recovered from Site CA-SIS-1801-H.*

Curation and Report Preparation

While the entire collection is presently stored at the Redding Field office of the BLM, Ritter is working to ensure that all materials recovered from the site are curated permanently; eventually the materials will be placed in a suitable regional depository.

Print photographs, transparencies/slides, film negatives, field notes, laboratory notes, and other documentation pertaining to the site investigation will remain on file with the BLM. Selected artifacts were subsequently photographed by Barnes for an illustrated presentation at the State of Jefferson Meeting in Mount Shasta, California in February 1998; these slides and a copy of the paper presented are among the items on file at the Redding Field Office.

A limited number of copies of this report have been produced, for distribution to selected libraries, historical societies, government agencies, and interested specialists. A pdf copy has been provided for inclusion in Schultz and Allen's ongoing bibliography on the archaeology of the Overseas Chinese.

VI. Results of Archaeological Investigation

Site-Surface Evidence

Intensive surface search of the immediate site area identified a total of four features that are likely contemporaneous. Feature 1 is the roughly oval-shaped, approximately 3 x 4-meter refuse/trash deposit; its contents are the main subject of this report. As discovered, the surface of Feature 1 contained a scatter of glass fragments, ceramic fragments, ferrous and brass items, and bone fragments. Feature 1 also included two possible footing stones on the ground surface.

Feature 2 is nearby (at its closest point, less than 20 meters from Feature 1); it consists of a section of a long-abandoned ditch. It is situated slightly lower (approx. 1.5m/5 vertical feet in elevation) than Feature 1. This ditch (some segments of which have been nearly leveled by infilling and disturbance), which follows a barely descending course, follows the contours of the ridge slope upon which Feature 1 is situated at the ridge summit. The ditch extends from the south side of the slope, rounding the “nose” of the ridge towards the north; i.e., it follows eastward along the south-slope contour of the site’s ridge, passing around the ridge’s eastward-oriented “nose,” and then proceeds generally westward along the north-aspect slope of the ridge. The ditch currently has a width of 3.5 feet and a maximum depth of 1.5-2.0 feet (measured from top of berm); infilling from sheet erosion of soil situated upslope from the ditch has definitely reduced the dimensions of the ditch. The ditch’s adjacent remnant downslope berm of excavated soil measures about four feet wide and is barely discernable as being higher than the original natural slope. Feature 2 is thought to be a subsidiary ditch of the Yreka Ditch or the Egbert Ditch, built lower in elevation and supplied with water from one of those large-capacity ditches. Although now heavily eroded, over-grown, and in some places barely traceable, Feature 2 would have been a comparatively modest-capacity ditch.

Feature 2, after rounding the ridge’s “nose” and passing towards the northwest, is situated upslope and about 75-80 meters west from Feature 3, an area (approximately 25 meters by 15 meters in size and one meter in maximum depth) that was dammed and excavated to form what would have been a shallow reservoir. The east-aspect ridge crest, i.e., the portion between Feature 2 and Feature 3, slopes at about 10%.

Feature 3, the relatively small-capacity, apparently hand-dug reservoir excavation, was formed by a 25m-long earthen dam, which was built across the ridge’s north-slope about 1.5 vertical meters lower than the ridge’s nearby crest/summit. The earthen dam is about 1-meter wide at the base, and it curves northward (outward from the slope), thereby increasing the amount of water than can be stored. Directly south, upslope of the dam, excavation into the slope, adjacent to the crest, is evident within the extremely dense growth of buckbrush *Ceanothus*; this excavation would have formed the upslope limit of the shallow reservoir. The dammed basin could easily have received its periodic supply of water by means of a (now-

obliterated?) diversion from the ditch (Feature 2) that is located upslope and to the west 75-80 meters distant.

Feature 4 is downslope to the northwest, approximately 10 vertical meters (33 feet) in elevation below, Feature 3. It is situated at the base of the north slope of the site's ridge; it forms a V-shaped headwall of a small, triangular-shaped placer-mined excavation. The headwall of this approximately 10 meters by 15 meters (33' x 49') mined-out area is up to 3-4 meters (10-13') high (< 1,000-cubic meters mined); boulder rubble and other tailings are visible in the bottom of this excavation, which is now heavily overgrown with blackberry vines, brush, and cottonwood trees. Feature 4 was possibly excavated by means of water-assisted manual labor, with water from the Feature 3 reservoir used in removal of overburden (as well as in the recovery of gold by means of a sluice-box system). The location of Feature 1, on the crest of the site area's low ridge, would have provided a clear view down to the Feature 4 vicinity, which is situated almost directly north and at the base of the ridge's north-aspect slope.

Beyond Feature 4, extending northerly from the length of the base of the ridge's north-aspect slope, is an extensive, nearly level area that occupies the wide basin of the Long Gulch drainage. Much of this area close to Feature 4 has been subjected to twentieth-century placer mining, apparently by means of a moveable trommel, a mechanized (and probably wheeled) gold-recovery device that, by means of different mesh sizes in a large-diameter, revolving steel "barrel" or trommel, size-sorts the excavated material, puts the "fines" through a connected sluice system, and with a conveyer system that dumps the larger-rock tailings into nearby piles. This later phase of mining left a number of conical-shaped piles of cobble/gravel-sized tailings

More-recent features situated within/near Site CA-SIS-1801-H include a segment of overgrown, barely discernable dirt road that passes through the site and a series of wooden fence posts (from a section of non-functioning fencing from which the barbed wire has been removed); both wire/round nails and cut/square nails have been hammered into many of the posts that extend northward up the south-aspect slope into the site vicinity.

As mentioned above, at the base of the north-side of the ridge slope, adjacent to Feature 4, are several areas of shallow, apparently twentieth-century placer "diggings" -- with several 1.5-2m-high, conical tailing piles of alluvial cobbles/gravel. These "dredge"-like tailings are indicative of terrestrial/dryland placer mining by means of a "doodlebug" (a large, movable/motorized trommel), an activity that most likely would have occurred sometime between the 1920s and the early 1960s at the latest.

Elsewhere, on the south slope of the site-area "ridge crest" is a short remnant of a lower, small-capacity ditch (see aerial photo and sketch map of site). It is unknown if this ditch would have been able to provide water to the reservoir (Feature 3); it is likely a bit too low in elevation to have done so. This ditch may or may not have been associated with the mining at CA-SIS-1801-H; it most likely was built somewhat earlier, to bring water to conventionally mined placer deposits closer to Hawkinsville.

Photo 8. 2014 view southwest of vicinity of Feature 1, located on the summit of the low, gentle ridge that forms the watershed divide between Long Gulch on the north and un-named ephemeral drainage on the south.



Photo 9. View to southeast showing barely discernable route of ditch (Feature 2) in center of photo. Beyond this point, the ditch curves to the east (left) and passes next to the north base of the pine tree (partially visible on far-left of photo).



Photo 10. View to west, Feature 2 in foreground; beyond this point, the ditch follows a route that passes just to the north (right) of the pine in center of photo. A short distance east of (behind) this photo point, the ditch begins its curve from an eastward orientation along the top of the ridge's south-aspect slope towards the north, so as to carry water across the low crest of the ridge and over to the north-aspect slope (on which the ditch continues in a northwestward direction).



Photo 11. View to southeast of Feature 2 at its section of north/south orientation (where it crosses the ridge crest); Feature 1 is out-of-sight to the right (west).



Photo 12. View to southeast showing the downslope (i.e., north-aspect) face of the earthen dam of Feature 3. The reservoir feature is situated at the top of the low ridge's north-aspect slope.



Photo 13. View to west-southwest of downslope (north-aspect) face of Feature 3's earthen dam; Feature 1 vicinity is at the cluster of trees on the right and Feature 2 (ditch) is located just below that clump of trees, upslope from the small, shallow Feature 3 reservoir.

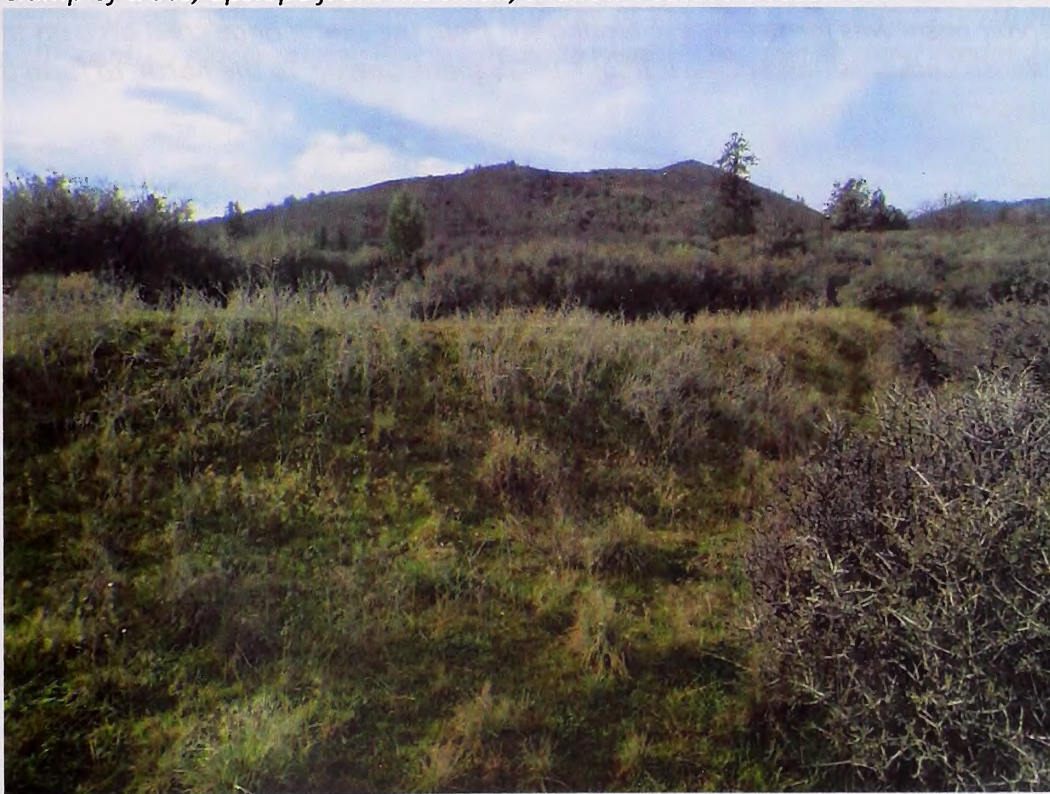


Photo 14. View to west from near the east end of earthen dam; figure is standing at west end of the Feature 3 dam. A few meters beyond the abrupt “break” in the dense buckbrush that is visible on the far (south) side of the dam is the south edge of the reservoir basin.



Photo 15. View west, taken from on top of east end of dam. The narrow, 25-meter long reservoir basin was formed by excavating soil from the subtle ridge crest area on the left (within the dense buckbrush) and piling it about 10-15 meters away, to the north, to form the out-curving earthen dam.



Photo 16. View east, taken from on top of west end of Feature 3 dam; difference in elevation between top of dam and deepest part of the reservoir basin (to right of the dam) is about 1 meter.



Photo 17. View to southwest and upslope to the Feature 3 dam (visible in distance, through the intervening trees); tailings in foreground (situated at the base of the ridge's north slope) are from 20th-century placer mining (likely using a moveable trommel/dryland dredge.)



Photo 18. View north and downslope from vicinity of Feature 3 showing Feature 4 (“ground-sluiced diggings”) in middle of photo marked by cottonwood trees, located at base of ridge’s north-aspect slope.



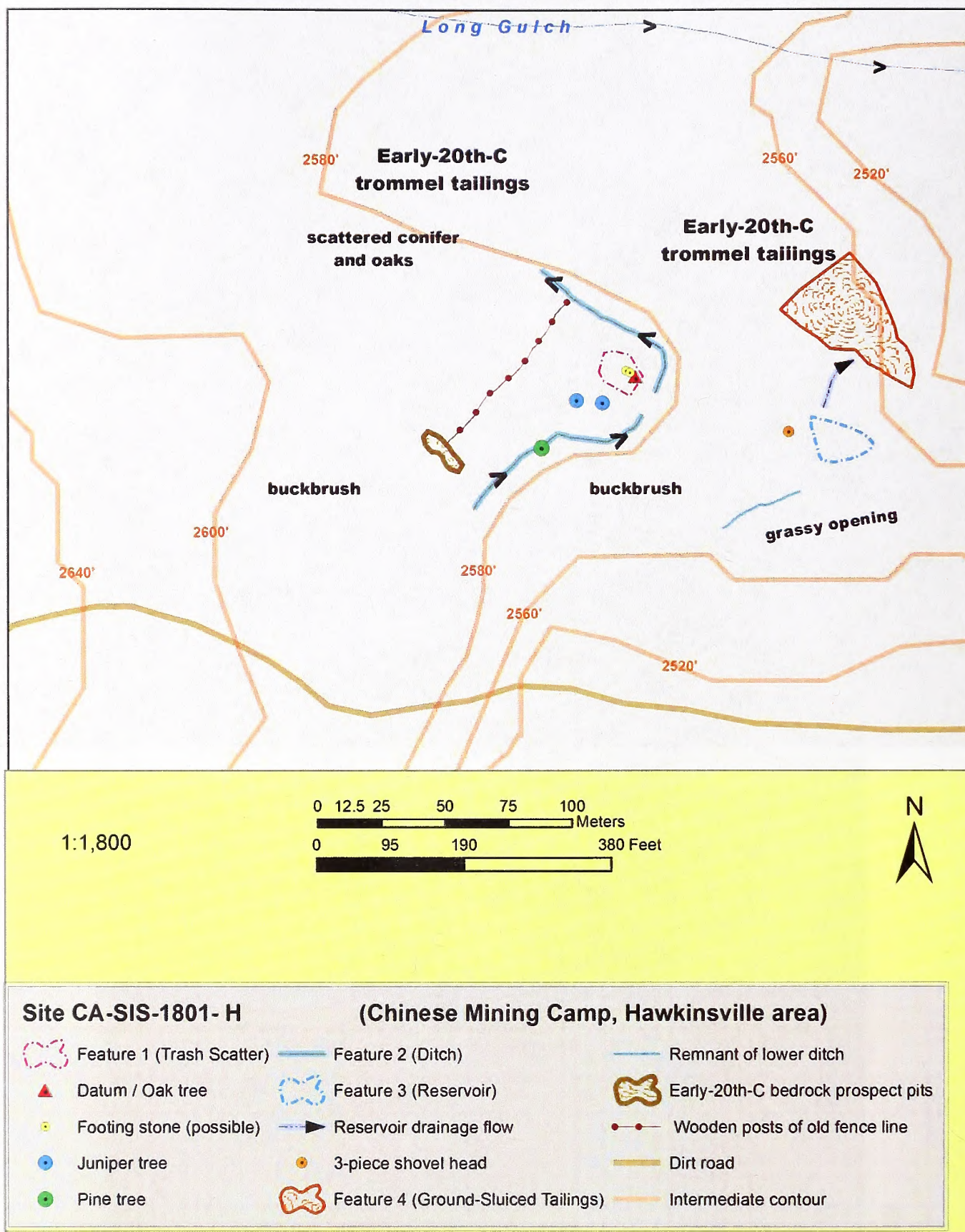
Photo 19. View west of portion of headwall of the “ground-sluiced” area, Feature 4. Other site features are to the left and upslope, out-of-view.



Photo 20. Riveted three-piece shovel head, found between Features 2 and 3.



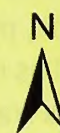
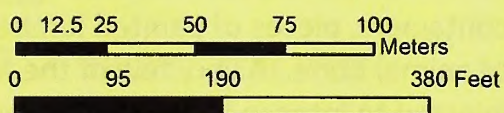
Map 2. Site map, CA-SIS-1801-H



Map 3. Aerial-photo map, CA-SIS-1801-H



1:1,800



Site CA-SIS-1801- H

(Chinese Mining Camp, Hawkinsville area)

- | | | |
|---------------------------|-------------------------------------|------------------------------------|
| Feature 1 (Trash Scatter) | Feature 2 (Ditch) | Remnant of lower ditch |
| Datum / Oak tree | Feature 3 (Reservoir) | Early-20th-C bedrock prospect pits |
| Footing stone (possible) | Reservoir drainage flow | Wooden posts of old fence line |
| Juniper tree | 3-piece shovel head | Dirt road |
| Pine tree | Feature 4 (Ground-Sluiced Tailings) | Intermediate contour |

Findings from Excavation of Feature 1

Feature 1 was the only portion the site that was excavated. The feature's soil matrix consists of a dark yellowish-brown loam in the upper 0-15cm (10 YR 4/4 dry), with the soil becoming lighter in color below 10-15cm in depth. The site's soils have been mapped by the Natural Resources Conservation Service (Web Soil Survey National Cooperative Survey) as Duzell gravelly loam, 5 to 9 percent slopes. The shallow deposit did not exceed 20 cm and the angular greenstone-schist bedrock that is exposed in a number of places on the ridge was often encountered before reaching that level. A thin root and duff layer covered the site. The soil was a gravelly (ca. 30%), rocky (ca. up to 15-20%) loam, slightly hard to hard, crumb structure, with a color of 10YR 5/4 and 5/6 (dry) (yellowish brown) with an increase in yellow as one proceeded near the bottom of a 20 cm deep level. In Unit 5 there was a slight darkening of color (10YR 4/4—dark yellowish brown, dry). A few flecks of charcoal were noted during the excavation in some units.

Some living roots were encountered beneath the soil surface, as were a number of rocks, varying in amount/size from a moderate number of small angular pebbles to far fewer large angular cobbles. The cultural deposits, which were most densely concentrated above 10cm in depth, ended abruptly between 15 centimeters and 18 centimeters below the current surface of the ground.

When compared to the sparse surface evidence, the density of cultural material excavated from such shallow depths of Feature 1 was surprisingly high. Although cut/square nails and other fasteners dominated the material recovered from the various units, the assemblage also included fragments of glass containers (largely bottles), ceramic shards (from Chinese-made food containers, rice bowls and other dishware, and opium-pipe bowls), ferrous strips, pieces of brass opium containers, pieces of painted lumber, and rubber fragments, as well as numerous fragments of animal bone. A very few of the feature's ceramic shards and glass fragments have been subjected to intense heat (i.e., crazing, melting).

Map 4. *Lay-out map. Feature 1, excavation units.*

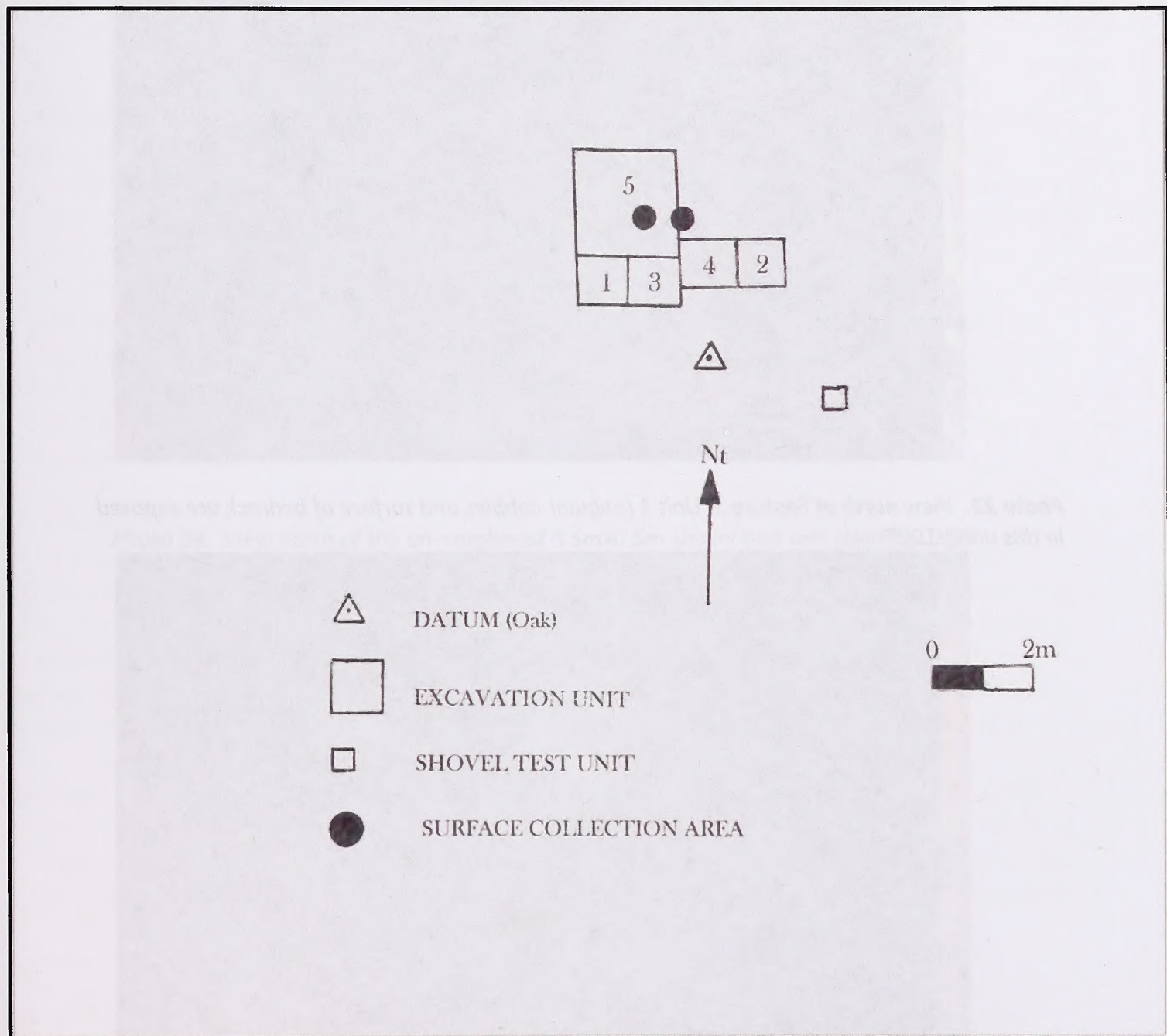


Photo 21. 1995 excavation of Feature 1, Unit 1 in progress. View to the southwest.



Photo 22. View north of Feature 1, Unit 1 (angular cobbles and surface of bedrock are exposed in this unit), 1995.



Photo 23. View north of Feature 1, Unit 2, which was free of cobbles/bedrock, 1995.



Photo 24. View north of the un-numbered 0.5mx0.5m shovel-test unit (sterile), 1995.



Artifact Description

A. Personal Group

Apparel

- *Footware*: Four fragments of very weathered leather were found; one of them has holes consistent with the edge of the sole of a shoe or boot; a very small (formerly brass-coated?) ferrous ring may have been an eyelet ring for shoe/boot laces.
- *Chinese clothing fasteners*: A single brass sphere (1cm in dia.), with a “loop” for attaching the object to clothing, was recovered; this item is consistent with the “frog”-type closures of Chinese men’s overlapping-front blouses. Two other apparent Chinese “frog” buttons are 1.2cm in diameter brass with flat faces inset with shell; small brass loops on the reverse sides allow attachment to clothing.
- *Euro-American brass buttons*: The assemblage includes five (5) circular 4-hole brass buttons; four of these are 1.5cm in diameter and the fifth is 1.25cm. The center portion of each button is recessed/concave, and this concavity is surrounded by a circle of very small “dots” embossed/impressed in the metal.
- *Euro-American copper button-snap*: Top portion only; object is 3/8” in diameter.
- *Euro-American ferrous buttons*: Five (5) circular, 4-hole rusted/ferrous buttons were found; these may have originally been cloth-covered. They range between 1.5. and 1.7cm in diameter.
- *Euro-American ceramic buttons*: The collection includes four (4) circular, 4-hole, white “Prosser”-type ceramic buttons; two have a diameter of 1.2cm and the other two are 1.0cm. (The 2014 site visit by Ritter and LaLande resulted in finding, on the surface of Feature 1, a fifth, 4-hole, white ceramic “Prosser” button of Euro-American manufacture; because the site area is now privately owned, this item and other artifacts present at that time were left on site.)
- *Euro-American(?) bone button*: A single, large circular (2.8cm dia.), 4-hole bone button (with recessed center and raised rim) was recovered; the size of this item would be consistent with use on a coat.
- *Euro-American suspender clips*: Seven (7) partial or fragmentary items appear to be parts of suspender-adjustment clips; three retain some brass coating while the others are fully exposed rusted ferrous metal.

Medicine:

- *Chinese medicine:* Two aqua-tinged fragments of vessel glass are likely portions of a single, small Chinese vial, which would have contained a tincture, essence, or other substance used in herbal medicine.¹¹ (Formerly, some American archaeologists assumed that these very small [generally <4cm in length], square-bodied vials contained opium, but they did not.) Similar vials have commonly been found in many other Overseas Chinese sites.
- *Euro-American patent medicine:* One fragmented bottle-mouth/lip (aqua-tinged, glass; bore diameter = $2\frac{5}{8}$ ") with a Davis-type finish was recovered; Davis-type finishes are seen primarily on late-nineteenth and early-twentieth century bottles containing patent and proprietary medicines, as well as toiletries, extracts, and druggists' ware (Jones et al. 1979:79).
- One of the many "amethyst"-tinged (from the effects of sunlight on glass that contained manganese as a clearing agent) glass items is a bottle-neck fragment (bore diameter = $\frac{13}{16}$ " at top and $\frac{3}{4}$ " at base of fragment) with a "prescription" finish, a type of mouth finish used exclusively on medicinal containers (Berge 1980:55; Fike 1987:8; no whole containers were recovered).

Indulgences – Opium

- *Opium boxes:* The assemblage from Feature 1 includes 151 pieces of thin-gauge brass sheeting that are parts of opium containers (i.e., rectangular boxes about the size and shape of a metal, household "Band-Aid" box). All appear to be from "five-tael" boxes that contained about $6\frac{2}{3}$ ounces of opium (Wylie and Fike 1993:267).¹² No whole containers were recovered. These pieces represent a minimum of eight opium boxes. Six of the pieces are the lids of opium boxes, each with the coffin-shaped cartouche containing Chinese characters.

Those cartouches that are sufficiently whole/legible bear the following brand (?) names in the lower part of the cartouche: Ling Yun, Cheng Long, Guang Chang, Fook Lung ("Abundant Luck"), and another that translates as "Fountainhead" or "Source of Beauty"; the legible cartouches' upper portions contain characters that translate as "high grade" or "top quality."

¹¹ Nineteenth-century vessel glass with an "aqua-tinge" is usually simply what then "passed" for clear/colorless glass that was manufactured before clearing agents (e.g., manganese: ca. 1880-1920; selenium: ca. 1920-1940) were successfully used to produce truly (if often temporarily) clear/colorless glass, or, subsequent to manganese or selenium additives, the making of permanently clear/colorless glass was perfected without those clearing agents. (The use of lead to produce clear "leaded" glass extends back into the early nineteenth century, but the process was expensive, usually confined to higher-priced stemware, etc., and not typically used on commercial food/beverage containers.) In other words, the aqua "tinge" in many examples of 19th- and early-20th-century vessel glass is usually most noticeable in cross-section, and it is simply the character of much "clear" vessel glass (i.e., those glass items made without either coloring or clearing agents added; later in the twentieth century glass-manufacturing technology finally succeeded in producing truly clear/colorless glass).

¹² A tael is a Chinese unit of weight-measure equivalent to about 1.3 ounces or 38 grams.

- *Opium pipes:* Twenty-four (24) ceramic fragments representing a minimum number of three opium-pipe bowls were found. The ceramic fragments are of a hard-baked earthenware, some pieces with impressed/stamped designs made before firing, and one with a very small cartouche of Chinese characters stamped into the clay. Some of the pieces are orange or brownish-orange in color; this ceramic material is termed burnished redware by some (Rose p.c.); while other fragments are from grayish (burnished grayware) ceramic pipe bowls. Three additional, small ceramic fragments may be from a Chinese-made opium-pipe bowl or from a tobacco pipe bowl of European manufacture; they are of a brownish-earthenware paste with a brown slip glaze over an exterior that has a number of small protrusions or “knobs.” (During the 2014 site visit an additional orange-ceramic fragment of an opium-pipe bowl was found.)

Indulgences – Tobacco

- *Pipe bowls:* A total of seventeen non-Chinese ceramic fragments, likely representing the remains of at least three different Euro-American-made tobacco pipes, are included in the assemblage. Two of these are all-white kaolin-clay fragments with no embellishments. At least two fragments of buff earthenware are from a molded “turbaned Turk’s head” pipe bowl (the largest fragment retains compacted, charred material in the bottom of the bowl). The remaining fragments are buff-to-orange earthenware; two of these are from a similar “Turk’s head” bowl and the remainder appear to be from a second form of molded “human head” bowl (this one apparently wearing a fur hat or with a very luxurious head of hair). An eighteenth, very small ceramic fragment may be from the rim of a pipe bowl; it is earthenware/stoneware with a yellow interior/exterior glaze

Indulgences – Alcoholic Beverages

- *Gin:* At least two green-colored glass fragments represent the remains of what is probably a single rectangular-bodied bottle of “Udolpho Wolfe’s Schnapps,” a “medicinal” case gin produced in Holland that was first introduced to the United States in 1849. One wall fragment bears upper-case/serif letters: *O L P H*, preceded by a small portion of what could have been a *D*. The manufacturing date of this particular bottle cannot be determined from the fragments but Wolfe’s Schnapps remained popular well into the late nineteenth century (Schulz and Gust 1983:38). In addition, at least two other green-colored glass fragments (one bearing part of an embossed locomotive wheel) are apparently from a “railroad flask” of a variety of a “Baltimore Monument” gin produced in the late-nineteenth century.
- *Wine:* During the course of recovery, 871 fragments of olive-green-colored glass, representing a minimum of three circular-bodied wine bottles, were found. Eleven “champagne”-style bottle fragments with flat tops and applied lips were

also collected, and these may well be from the same three (or more) wine bottles. This type of finish was more typically used on "Bordeaux/claret"-style bottles (Schulz et al. 1980:75-76). The bore diameters are about 5/8"; one wall fragment provided a measurement of a bottle that would have been about 3½" in outer diameter at the base.

As with all of the other fragmented bottles recovered at the site, these vessels were blown-in-the-mold bottles, pre-dating machine-made bottle manufacture.

- *Whiskey (?)*: A total of 28 fragments of amber-colored glass constitute the remains of at least one round-bodied bottle. Amber glass was used for vessels that held a variety of substances (Fike 1987:13), but it was quite common in the late nineteenth century for whiskey and other liquor bottles (later, beer -- when it began to be bottled for sale -- came in amber-glass containers). The curvature of these fragments point to a bottle circumference most commonly used for whiskey and other spirits.

Coins

- Two Chinese *wen*, coins made of brass (aka *tongbao*, "coins with hole in center"), were recovered. One of the reign marks (seriously corroded) appears to be from the highly regarded K'ang Hsi reign (1662-1722), and the other coin is from the subsequent and equally prestigious Xian Long reign (1736-1796).

Discussion: Although Chinese (and other Asian) coins are commonly found at Overseas Chinese sites in the American West, it remains unclear just how they were used in the Chinese communities. Some are thought to have served as gaming pieces in *fan tan* and other games of chance (Lister and Lister 1989; but see Camp 2004). Farris (1979:48-52) posits that, in Yreka's Chinatown and elsewhere, Chinese coinage may have served as currency for purchases by Chinese inhabitants at Chinese establishments. Certain coins, especially those struck during especially prestigious reigns of Ch'ing/Qing (Manchu) Dynasty emperors, were kept as good-luck charms (this caused many such coins to be counterfeited long after a favorite emperor's demise). Numbers of such coins would also be stacked onto an iron rod and suspended over one's bed to ward off evil spirits (Lister and Lister 1989:76). Because of the longevity of their use/circulation, as well as the possibility of counterfeiting, Chinese coins in Far West sites cannot offer a reliable means for dating of Chinese occupation.

Firearms:

- Two spent .22-caliber rim-fire cartridges made of copper alloy were found. One is a .22-long shell with a single, central headstamp of *F* (Federal Cartridge Co.); the other cartridge is a .22-short shell with a single, central headstamp of *U* (Union Cartridge Co. prior to 1911, Remington Arms Co. after 1911).

<<https://www.google.com/search?q=ammo+cartridge+headstamps&biw=996&bih=466&tbm=isch&tbo=u&source=univ&sa=X&ei=VsSRVNSCDsbxoATWpYD4Cq&ved=0CDOQsAQ>> Although these shells could be from the late-nineteenth century, it is

possible, even likely, that these items resulted from twentieth-century target practice or rabbit/squirrel hunting that occurred well after the Chinese occupants had departed from the vicinity.

Personal Tools:

- Three copper-alloy fragments, likely representing the remains of the handle/case of a small pocket knife, were recovered. The knife would have measured about 3" long.

Writing:

- One of the many aqua-tinted vessel-glass fragments found on the site appears to be from a small (approx. 1.5"-dia.) bottle, one that had a "rounded" body that was actually composed of up to twelve flat vertical facets. This basal fragment bears a pontil scar, dating its manufacture to before 1865. Based on its size/shape, this vessel could have originally held ink.

B. Domestic Group

Food/Condiment Containers:

- *Euro-American Bottles:* One fragment of an aqua-tinted vessel's mouth is part of a folded-out lip. Similar to folded-in lips, this kind of mouth finish is often found on mustard and other condiment bottles throughout much of the nineteenth century; their popularity declined after 1890 or so.

One fragment is an aqua-tinted, bottle-mouth finish that has a rounded, hand-applied lip and an uneven sealing surface, characteristic of a "bead" finish (Berge 1980:57). Bead finishes typically were used for late-nineteenth-century pickle and olive jars/bottles as well as for other food-stuff containers. This mouth has a bore diameter of $\frac{3}{4}$ ", indicating the bottle likely had contents other than pickles or olives.

Two glass fragments represent pieces of at least one bottle with a "flanged" finish with a folded-in lip; a neck seam is evident on one of these pieces. Folded-in lips are seen on various bottles and jars into the last quarter of the nineteenth century, after which they became much less common (Jones et al. 1979:80-81). Mustard, pickles and other food-stuffs were marketed in containers with such finishes (Young 1979:8; Switzer 1974:51-57). With an estimated bore diameter of $1\frac{3}{8}$ " at the top, this was likely a condiment container.

- *European ceramics:* The excavation of Feature 1 yielded four buff-paste stoneware shards with a brownish-orange glaze on the exterior surface and no glaze on the interior. One of these fragments appears to be from the body of a circular-walled ceramic bottle and displays impressed printing. The wording is German, as follows: *RAKOCZI / GEBR:BOLZANO / KISSINGEN*. Rakoczi (or Rakocasz) was the name of a well-known mineral spring in Bad Kissingen, Franconia, in central Germany; a popular mineral water was bottled from this spring by the Bolzano family and it was being sold internationally, in ceramic bottles and (according to the on-line maker's mark guide) with this particular form of impressed labeling near the top until 1855 (www.mineralwasserkruege.homepage.t-online.de/kissingen).

These four shards apparently constitute portions of the same ceramic bottle; the lack of interior glaze on these fragments may be due to the fact that only the middle and lower portions of these tall, cylindrical bottles were glazed; a fifth buff-paste stoneware shard, which has a thick cross-section, likely came from the base of this same bottle. Due to its apparent pre-1856 manufacture date, this bottle may have been salvaged from an earlier "Gold Rush"-period site for re-use and then later was broken during use at CA-SIS-1801-H.

- *Chinese, brown-glazed stoneware:* (abbreviated as CBGS in archaeological literature, sometimes shortened to "Chinese brownware") account for the most numerous ceramic shards recovered from the site (N = 96). Brown glaze appears on both the exterior and interior surfaces, although interior surface's glaze can be lighter in color. Basal shards are typically without any exterior/interior glaze. Reconstruction

using rim and base fragments suggest that these shards represent at least one vessel, probably a medium-size, shouldered jar with an approximate 11-cm-diameter mouth opening. (Some of the shards could conceivably be CBGS fragments from another such vessel, or even from one or more *different* kinds of Chinese brownware vessels entirely, such as from a narrow-mouth soy-sauce jug or a flared-mouth Ng Ka PY “Chinese Tiger Whiskey” ceramic bottle; however, no diagnostic rim or body pieces from other sorts of vessels were found. What is certain is that the collection’s CBGS fragments most likely represent a single container, and, at most two or three CBGS containers.

Discussion: Wide-mouth/shouldered CBGS vessels have been well documented in other Chinese sites, and they are known to have contained dried, salted, or pickled vegetables (cabbage, radish), fish or shrimp, and a variety of other foodstuffs produced in China for overseas export; see Brott (1989:235); LaLande (1981:225-231); Lister and Lister (1989:41); Ritter (1986:30); for Overseas Chinese ceramics, see especially Choy (2014) Chan (2014), and for CBGS in particular, see Yang and Hellman (1998:59-66); they confirm that most CBGS vessels found in Overseas Chinese sites were manufactured in/near urban Guangzhou (Canton), Guangdong. Dating such artifacts is not feasible because their manufacture remained virtually unchanged throughout the nineteenth century.

- *Euro-American tinned cans:* A total of 13 pieces/portions of rusted tinned cans were recovered. A minimum of five different cans are represented. All but one of the five appear to have been small, round-bodied (2” dia. and 2.5” dia.) containers that had exterior-friction lids (i.e., although the bases had overlapped seams, the contents were not sealed by the “hole-in-top” method; these cans could have held powdered substances); all or portions of seven circular friction lids are present. The remaining can is whole, not partial; it measures 4” high and has a narrow oblong body with base/top measuring about 4” long x ¾” wide. The top formerly had some sort of spout-type opening in the center of the top (simply to evoke the object’s image in the mind’s eye of the reader: although quite different in manufacture, it is somewhat similar in size/shape to a ca. 1930s-60s can of Boraxo soap); this can may have contained either a liquid or a powdered foodstuff.

Food-Consumption, Tablewares:

- *European/Euro-American white-improved stoneware:* A total of 35 shards of Euro-American-manufactured “white improved earthenware” (also referred to as “ironstone”) were found within Feature 1. These fragments represent at least one bowl (with raised scalloping on the interior of sloping, lip (rim-to-base) portion. One of the basal fragments exhibits a maker’s mark: an impressed British-registry diamond above ADAMS (incomplete inscription).

Discussion: Although printed rather than impressed, similar maker’s marks appear on a ceramic artifact found in an 1849 California “Gold Rush” context in Sacramento (Praetzell et al. 1983:5), artifacts with this makers mark were made in Tunstall and

Stoke, England, by William Adams & sons, a company that began manufacturing pottery in 1769 and continues to do so today (Godden 1964:19-23).

- *European/Euro-American blue-transferware*: Excavation of Feature 1 yielded 21 shards of European/Euro-American-manufactured blue-transfer-printed earthenware. Highly fragmented, at a minimum, these artifacts appear to constitute part of a single vessel, likely a bowl or cup; however, two noticeably different thicknesses of fragments may indicate the presence of at least two vessels.

Discussion: Blue-transferware is very commonly found in mid-to-late-nineteenth-century California sites, with some of the more popular patterns (e.g., “Willow”) extending into the twentieth century (Felton et al. 1984:30). The shards in question feature a design that includes tree foliage, tree branches, and a possible distant pond/lake with the wall of a building or buildings rising beyond.

- *Euro-American clear/colorless glass*: Four fragments of clear/colorless glass, probably representing a single drinking glass of Euro-American manufacture, were recovered. These pieces are from a low-quality “crystal,” and exhibit ribbing and facets on the exterior sides, a common embellishment on tumblers in the past as well as today.
- Two basal fragments from two (identical sized?) dark-green, thick-walled glass objects were recovered; the bases appear to be from the bottoms of small-diameter, round-bodied/slope-walled drinking glasses; they would have had an approximate basal diameter of 1 and 1/16 “.
- *Chinese ceramic, “Double Happiness”*: Nine blue-on-white, porcelain or porcelaneous-stoneware fragments exhibit the *Shuang Hsi* or “Double Happiness” pattern (a.k.a. “Swirl” in some early archaeological reports). These represent fragments from a minimum of a single bowl; however, due to apparent differences in the application and appearance of the hand-painted design, more likely they are pieces from at least two small rice bowls.

Discussion: The “Double Happiness” pattern was traditionally (and still is) associated with weddings and marriage, and many of these bowls found in archaeological investigations in the Far West could have been brought by individual Chinese immigrants as sentimental reminders of their wives back home. Chinese vessels of this pattern, size, and shape are considered to have served as (typically personally owned) rice bowls.

Although “Double Happiness” bowls are reported as being found most often at somewhat earlier-dated (1850s-1860s) Chinese sites in the American West, they do occur at later-nineteenth-century sites as well. One of the authors of this report (LaLande) wonders if the following scenario could possibly account for some part of the temporal discrepancy in this pattern’s presence: In the early period of Chinese migration to America, the number of married men, hoping for quick wealth from gold mining, may have been a larger portion than in later decades (when often

younger, single men, heavily recruited for contracted manual labor such as ditch digging and railroad construction, may have become a larger part of the influx).

Possibly then, subsequent breakage and other attrition could have resulted in the loss of many wedded men's marriage-symbolizing "Double Happiness" bowls that had been brought as part of one's personal belongings from China, with such bowls steadily being replaced by the far more common "Longevity"/"Bamboo"-pattern rice bowls that were exported in vast quantities to the United States.

- *Chinese ceramic, "Longevity"/"Bamboo"*: The assemblage contains two small rim fragments of Chinese porcelainous stoneware, decorated with an under-glazed design of cobalt-blue "swirls" and "spots" against a background of bluish-gray-tinted glaze. These represent at least one vessel, a rice bowl of the very common "Longevity" or "Bamboo" pattern (formerly called "Three Circles and Dragonfly" pattern by many American archaeologists).
- *Chinese ceramic, "Pale Jade Green"*: The site's assemblage includes three ceramic shards identified as "Pale Jade Green" (aka "wintergreen"), a monochromatic-exterior porcelain with a very light greenish hue that is also often referred to as "celadon" in the archaeological literature (Mueller 1989:271). One piece is a basal fragment of a very small vessel (small rice bowl) bearing the portion of a hand-painted blue, linear/rectangular design. The other two pieces are rim fragments, probably from the same vessel; they bear a very thin white strip on the exterior rim edges.

Discussion: Unlike Double Happiness and Longevity styles, which were used only on rice bowls, Pale Jade Green/wintergreen vessels came in at least three different forms: rice bowls, much smaller-sized tea cups, and spoons. The fragments in question probably came from a tea cup. As with many other Chinese ceramics, Pale Jade Green vessels – because of the longevity and unchanging appearance of this style -- are virtually impossible to date from the artifact alone; the use of prestigious emperors' "reign marks" on some such vessels often does not indicate age, but instead the wish to appeal to a buyer's own vanity or hope for good luck (Choy 2014:8-9).

- *Other Chinese ceramics:* The assemblage also includes two fragments of an apparently Asian-made porcelainous-stoneware vessel decorated with an underglaze of cobalt-blue swirls against a bluish-tinted glaze. Representing at least one vessel, the fragments resemble those depicted in Mueller's discussion of Asian porcelains and porcelainous stonewares; Mueller (1989:289) describes these

ceramics as quite prevalent at Overseas Chinese sites in Southeast Asia but also found in the American West. It is possible that these particular pieces are from what is commonly called a "ginger jar."

A third ceramic fragment (porcelaneous with blue-glaze exterior and white interior) appears to be a bowl/handle piece from a Chinese-made soup spoon.

Lighting:

- Two fragments of very thin aqua-tinted glass probably represent the remains of a kerosene-lamp chimney.
- *Dowler's Match Box (one end of box only):* A single, approximately 1" x 2" piece of stamped tin sheet is a label/striker for a box of "Dowler's Wax Vestas" matches. It was originally affixed to the end of a small metal box that held matches made by George Dowler and Co. of Great Britain. It has outer and inner "raised frame" borders on the obverse face, with the inner frame surrounding an area (filled with a small-diamonds pattern) that occupies the center of the object's rectangular shape. Between the inner and outer borders, the two sides of the panel bear vertical lines of seven raised "stars" or other small, stamped symbols; the top side bears *DOWLER'S* across that space and the bottom side bears *PATENT WAX VESTAS*. The raised "diamond" pattern in the center of this object would have been the "striker" for friction-lighting of the matches that came in the box.

Discussion: Currently all that is known about this object is that it held matches and was most likely made/sold in the late-nineteenth century by Dowler and Co., "metallist and die sinker" of Birmingham, England (established in the eighteenth century and growing greatly into an international market during the nineteenth century). In addition to metal match boxes, Dowler and Co. produced buttons, toys, ammunition cartridges, bottle jacks, cork screws, handcuffs, and whistles for the British army and police (<http://bcnsociety.co.uk/?archive=1&fn=4&id=41>).

- *Oil-lamp wick holder:* One object is a wick-holder "cap" for an oil-burning lamp;. The object consists of a white-metal interior-threaded, circular "cap" (1" in dia.), through which two ferrous, hollow (¼"dia.) brass(?) tubes penetrate/extend through both surfaces of the cap. One of the tubes is approx. 1.5" long and the other is 1" in length. Given the apparent age of the site, the lamp most likely burned kerosene rather than whale oil or camphene.

C. INDEFINITE-USE GLASS CONTAINERS (*many of these vessels likely held alcoholic beverages*)

Euro-American/European Glass Vessels:

- A total of 320 fragments of aqua-tinged vessel glass were recovered; these represent a minimum of three blown-in-mold bottles. Twenty-four (24) of the fragments (site-collection accession #9). Are from a rectangular-bodied bottle; the others are from round-bodied bottles.

Included in the collection of aqua-tinted glass fragments are five (5) base/push-up pieces from a single round-bodied blown-in-mold bottle with a basal diameter of approximately 2-3/8 inches; this vessel *may* have held white wine or a condiment. One aqua-tinted fragment is identified as a piece of a two-part finish (hand-applied lip?) (Two very small fragments may actually be from the Chinese medicinal vial described previously.)
- A minimum of four (4) blown-in-mold bottles are represented by 241 fragments of somewhat “turquoise” green-blue vessel-glass fragments. Seven (7) of these pieces appear to be from the same kind of bottle; they exhibit the same green-blue tint and “open flower” imprinting.

These seven shards may be from one or more “cathedral”-style pickle bottle (Young 1979:8; Switzer 1974:51-57). The green-blue fragments also include two pieces from “oil” or “ring” bottle-mouth finishes, which were commonly found on nineteenth-century castor oil, liquor, olive oil, and some soda-pop bottles (Berge 1980:57).
- Sixty-seven (67) pieces of solarized-amethyst vessel glass are present in the assemblage; these appear to be from a minimum of one bottle and two jars. Ten (10) of these fragments exhibit square, not round, sides, indicating a square/rectangular-bodied bottle. Other fragments, such as a mouth-rim (mouth would have been approx. 1.5” dia.) fragment, are clearly from round-bodied containers. All of these fragments are from blown-in-mold vessels.

An ovoid facet (measuring 2 and 11/16” in length and 15/16” in width, is present on one of the fragments; this may have served for placement of a small paper label. These glass fragments include four pieces that retain portions of threaded-lip finish commonly seen on late-nineteenth-century jars that contained various foodstuffs (i.e., “Mason” jars).

- A total of 33 fragments of clear/colorless vessel glass were found at Feature 1. These represent at least two vessels; one likely a bottle and the other an undetermined kind of vessel. The apparent bottle fragments have pronounced curvature (i.e., round body) and are about 1/5" in thickness.

One of these bottle fragments displays portions of two embossed letters; however the fragmentary condition does not permit identification of the lettering.

- A minimum of one round-bodied vessel is represented by seven (7) fragments of medium blue (not dark/cobalt-blue) glass. From the late nineteenth century on, blue glass was used for a variety of medicines, cosmetics, and soda water (Fike 1987:13; Jones et al. 1989:14).

D. ARCHITECTURAL GROUP

Construction Hardware:

- *Cut/square nails:* Accounting for over 99 percent of the ferrous-metal fasteners in the assemblage, the 3,012 cut/square nails represent by far the most plentiful artifact type from Feature 1.¹³ Of the cut nails, 2,240 of them (about 74 percent) are broken into either shank or head pieces; a total of 773 of the cut nails are whole, and over two-thirds of the whole nails [558] are classified as bent rather than straight. Only whole/straight nails (or straight enough to provide an accurate measurement) were measured as to weight/length; this represented 510 specimens (fragmentary and severely bent nails were excluded).

Of those cut nails examined and measured, a variety of types were recognized: fencing, brad, casing, finishing, as well as (by far the largest percentage) those considered “standard” carpentry nails. Those identified as fencing nails displayed the full gamut of pennyweights from 6d through 16d. The brad nails included pennyweights 10d, 8d, and 6d. The single clearly identifiable finishing nail recovered was 8d in size/weight; notably, some of the nails were either brads or casing nails, but due to the similarity between the two types it was not possible to identify them further. Cut nails identified as “standard” include the pennyweights of 20d, 16d, 10d, 9d, 8d, 7d, 6d, 4d, 3d, and 2d. A single cut/square 30d spike was also found. The standard-type nails range in size through the various pennyweights; most commonly used in wood construction. The high proportion of bent nails may indicate a structure that was dismantled, rather than collapsed and rotted in place.

- *Key-plate for lockable door:* This ferrous item is a simple 2-screw keyhole face plate for a door, measuring 4.5cm in length and 2.5cm in width.
- *“Date” nail:* In addition, a single, short/square-shank “date” nail was recovered. This appears to have been the kind of nail, used on underground mine timbers, railroad ties, and telephone (or other utility) poles, with a large-diameter head that was sometimes stamped with a year date, used to determine when a wood post, tie, or pole was due for replacement.
- *Cut/square tacks:* A total of 11 cut tacks were recovered. Tack size is denoted by weight described in ounces, rather than by pennyweight. Nine tacks have the weights of 1.8, 1.6, 1.4, 1.2, 1.0, and 0.4 ounces; the remaining two specimens are fragmented and consequently were not weighed.
- *Wire/round nails:* A total of 14 wire nails were recovered. While one shank fragment was not measured, the remaining 13 nails were whole, small specimens with the pennyweights of 3d, 4d, and 6d.

¹³ Although machine-cut nails are actually rectangular, not “square,” in cross-section, the term square is used here.

- *Chinese Box Nail*: One item believed to be a hand-forged Chinese box nail was recovered. The shank, which tapers on all sides, is 5cm in length and it attaches to the nail head (1.2cm dia.) at one edge of the head (i.e., it is notably off-set to one side from the center of the nail head).
- *Wrought/square nails*: The excavation yielded three wrought nails, one of which has a square shank that tapers on all four sides to a sharp point and exhibits the “rose head”-pattern typical of blacksmith-made wrought nails of the nineteenth century. Although this specimen is slightly bent, the total length is 2-7/8 inches. The remaining two wrought nails are head fragments that also have square shanks and “rose-head”-patterns
- *Screws*: Feature 1 yielded four (4) flat-head iron screws. One screw measures 1” in length; two of them measure 1½” long; and the remaining specimen is 1¼” long. These all appear to be wood screws with standardized threads
- *Bolts*: Two (2) iron bolts were recovered. One of these specimens is slightly bent, with a plain flat end and a head that appears to bear evidence of hammer blows; the length is 1 and 5/8 inches. The second bolt is of a type that has yet to be identified; this fragmented piece has a square, tapering shank; this item also shows evidence of use.
- *Rivets*: Two (2) iron rivet fragments were recovered. One specimen is slightly bent and has a round shank that measures 3” in length and 5/16” in diameter; this item represents a broken shank. The second rivet is also a fragment (head only) with a length of 1¾” and a round-shank diameter of between ¼” and 5/16”. These items may be from the part of a shovel head that attaches the shovel’s blade to the shovel’s wooden handle, and (due to their almost identical diameters) they may be two ends of the same rivet.
- *Horseshoe nail*: Although not actually part of the “architectural group” of artifacts, a single, bent horseshoe nail was also recovered.

Fenestration/Lighting:

- *Window glass*: The excavation of Feature 1 yielded 33 fragments of flat glass, most likely the remnants of at least one window pane. All but one of the pieces were clear/colorless; the other fragments has a slight aqua hue. Thicknesses range from 1.3 millimeters to 2.95 millimeters; the average thickness is 1.85 millimeters.

E. RE-USED and/or UNIDENTIFIED-USE ARTIFACTS

Metal items, modified for uncertain uses:

- *Opium-box pieces:* A total of 45 of the 151 opium-box fragments in the collection appear to have been purposely cut and/or perforated. In sorting through these modified artifacts made from pieces of very thin-gauge sheet brass, several items stood out: Two trapezoidal pieces, both similar in size (approx. 3.0 to 4.5 centimeters long by 1.6cm wide) were identified. Additionally, 21 rectangular pieces were present in the assemblage. These include three square (4cm x 4cm) pieces; two of the square pieces appear to have been cut from base portions of opium boxes. The remaining 18 rectangular pieces are “strips” (with dimensions ranging from 2.0 to 7.0cm long and 0.5 to 3.0cm wide). Aside from the squares, there is no consistency in the dimensions of the rectangular pieces; one of these items has been punctured twice, possibly with a nail.

The square pieces may have been intended for use as *fun* (or *fun*s) trays, for the holding and melting of small quantities of opium prior to being placed onto/into the aperture of an opium pipe (see Wylie and Fike 1993). Actual funs trays typically have the four corners of the square piece of brass sheet somewhat “crimped”; the square pieces from CA-SIS-1801-H do not bear any such manipulation; see discussion below.

Five of the opium-box fragments have perforations in them. All five are rectangular, with an average length of 2.5cm and an average width of 1.3cm. Four of these five items have one perforation in each of them; the other has three punctures. All punctures appear to have been done by a cut/square nail.

Twenty-two (22) irregular-shaped pieces of opium-box brass sheet are present, and thirteen (13) of these pieces are very thin strips averaging 3cm long by 0.2cm wide. These items may be the excess “trimmings” created during efforts to cut the brass into more regular shapes. One of the irregular pieces (3cm x 2cm) has a half-circle shape cut out of one edge. Another piece is a lid fragment containing a cartouche with Chinese characters; this item has been folded in half, has punctures in two corners, and a small portion has been cut out of one of the edges. The remaining irregular pieces are best described as small strips; as stated above, these may simply be leftover “trimmings” that were discarded after larger pieces were put to their intended uses.

Discussion: Small pieces of sheet brass cut from opium boxes were used for a variety of purposes (see Helvey and Felton 1979). As demonstrated by Fee (1993:86), these included the “patching” of larger tinned cans that were probably being used as buckets. Patching of knotholes in cabins’ wall and floor boards was another likely use. *Funs* trays, the small square pieces of brass sheet, usually with crimped/up-turned corners, were used to hold a smoker’s loose quantity of opium for smoking; i.e., a convenient amount that had been removed from the box. These objects have been found at many Overseas Chinese sites. Although Merritt et al. (2008:2) claim that these served as scales with which to weigh opium for sale, the

description by Wylie and Fike (1993:262), that they were used during the smoking process, conforms far better with the very common presence of these items at isolated work camps located far from the nearest Chinese merchants.

- *Brass connector:* One 1.4cm-diameter interior-threaded connector object (portion of kerosene-lamp wick burner?) was found.
- *Lead objects:* A single 4cm-long flat “glob” of melted lead was found; it has two gouges (from a knife blade or other small tool?) on one of the two flat surfaces. Two additional very small, thin pieces of lead “foil” were found.
- *Cut/square nail:* One of the cut-nail head fragments appears to have had the end of the remnant shank purposely modified by pounding/abrasion from its original form. Measuring 5/8” in length, the broken end of this item’s shank has been fashioned to a relatively sharp, thin edge similar to that of a flat-head screwdriver.
- *Other ferrous items:* A total of 39 sheet-iron pieces recovered from Feature 1 exhibit evidence of modification; these pieces likely came from tool pieces, tinned cans, barrel hoops, straps, and other objects.

Of the 39 items, 18 of them possess one or more puncture holes (with most of the punctures evidently made by cut/square nails). Thirteen (13) of these artifacts vary between 6.7cm and 2.6cm in length and 3.1cm to 1.0cm in width. A number of them are consistently between 5.0 and 3.0cm long and 1.5cm wide. The other five pieces that contain puncture holes are irregular in shape and measure no more than 5.6cm long and 5.1cm wide. Three of these objects have curved profiles and are consistent with the size and shape of that portion of riveted shovel heads that hold the blade to the wooden handle.

Among the 21 sheet-metal artifacts that do not have puncture holes are two triangular pieces; these have dimensions of 3.4cm (“base” edge) x 2.4cm X 2.4cm and 2.1cm x 2.1cm x 2.1 wide, respectively. Two other pieces are rectangular (between 15cm and 2.5cm long and between 2.4cm and 1.7cm wide). The remaining items are irregular shaped, with dimensions under 16cm long and 5.5cm wide.

Other ferrous items include a 5-link section of light-weight chain; five segments of different-gauge wire; a 25cm-long/<1cm wide, 4-sided rod, and a number of small, unidentified pieces, including some fragments of thin-gauge strips with nail-puncture holes in them.

F. FAUNAL REMAINS

See Taite's 1997 report (Appendix A) for a detailed discussion of the faunal remains from Site CA-SIS-1801-H's Feature 1; the overwhelming majority of the collection's faunal remains came from the 2mx2m-unit designated as Unit #5. The collection consisted of a total of 1,792 individual (and most of these extremely small) bone fragments; over 99 percent of the identifiable remains are mammalian.

Of the collection's total 1,792 items, only 422 specimens (23.5 percent of the collection) could be identified as to genus and species. Due to the aggregate weight and the extremely fragmented nature of the remains, it was impossible to determine the collection's minimum number of individuals (MNI); however, based on the volume of fragmentary bone, it is possible that the number of individual animals represented could be as low as a single specimen per species.

Gallus gallus (chicken):

- Chicken bones totaled only four specimens (0.09 percent) of the entire faunal assemblage's identified specimens; no evidence of burning was evident.

Bos taurus (beef):

- Beef bones (N = 27) comprise slightly over six (6) percent of the identifiable remains. Over 60 percent of the *Bos* specimens are leg bones. All of the bones that had butchering marks had been cut with a hand-saw, indicative of dismembering by a Euro-American butcher.

Sus scrofa (pork):

- Specimens identifiable as pig bones totaled 391 items (92 percent of the identifiable remains), and these are dominated (N = 363) by head elements (cranium, mandible, teeth). The few butchering marks indicate dismemberment by handsaw, likely by a Euro-American butcher (cleavers being far more popular with Chinese butchers).
This assemblage of pork bones indicates heavy use of "lower-ranked" elements (head, feet, shoulder), which is quite common in Overseas Chinese sites, as opposed to the higher-ranked elements (ham/leg, loin) preferred by Euro-Americans.

G. NATIVE ARTIFACTS

The excavation of Feature 1 also yielded a total of four (4) specimens of obsidian debitage. All of these items appear to be fragments of early/middle-stage percussive reduction of an obsidian core (i.e., percussion-flake fragments); the dorsal surface of one of these flakes is almost entirely cortex.

Time Range of Site Use

Following an approach similar to that employed in previous reports, the time range of site use was determined by comparing the range of dates from the radiocarbon dates to the range of dates from the archaeological evidence. The archaeological evidence includes the presence of early/middle-stage percussive reduction of an obsidian core (i.e., percussion-flake fragments); the dorsal surface of one of these flakes is almost entirely cortex. The time range of site use is therefore determined to be the time range of the archaeological evidence, which is the time range of the radiocarbon dates. The time range of site use is therefore determined to be the time range of the archaeological evidence, which is the time range of the radiocarbon dates.

The overwhelming preponderance of early/middle-stage percussive reduction of an obsidian core (i.e., percussion-flake fragments); the dorsal surface of one of these flakes is almost entirely cortex. The time range of site use is therefore determined to be the time range of the archaeological evidence, which is the time range of the radiocarbon dates. The time range of site use is therefore determined to be the time range of the archaeological evidence, which is the time range of the radiocarbon dates.

Based on the evidence from the radiocarbon dates, the site was occupied sometime between the very late 18th and the mid-19th century. When combined with the

¹ The radiocarbon dates were calibrated using the IntCal13 calibration curve (Reimer et al. 2013).

C. NATIVE ARTISTS

The first of the native artists to be mentioned in the early records of the colony was a man named ... who was ...

... and ...

...

...

...

VII. Site Analysis: Interpretations

The following discussion deals with several aspects of the Hawkinsville project's results that lend themselves to broader analysis. Undoubtedly, more intensive analyses of the material could yield additional (or even different) interpretations.

Time Period of Site Use

Obtaining an approximate date for the Hawkinsville site, specifically Feature #1, was accomplished by comparing dates and ranges of dates from the main categories of items recovered, including nails, ceramics, and glass containers. Because of the longevity of their manufacture, design, and individual personal use, the Chinese items (other than their identification as being late-nineteenth-century in age) prove far less useful for tight dating than do the Euro-American-made bottles.¹⁴ Euro-American/European glass bottles are a class of artifact that underwent a number of well-dated changes in manufacturing technology between the 1850s and the 1930s -- changes that are recognizable in the archaeological record. In addition, both embossing of product names on bottles and maker's marks on the bases of both bottles and ceramic items can be similarly useful, but only one maker's mark fragment (of English stoneware) was recovered.

The overwhelming predominance of mass-produced cut/square nails at the site almost certainly dates the occupation to prior to the mid-1890s, by which time less-expensive wire/round nails had become almost universal in use; the authors assume that the very few round/wire nails that were found post-date the site's use by Chinese miners. Aside from a single item, the numerous fragments from non-Chinese bottles and other glass containers -- although most of them lack temporally-diagnostic manufacturing evidence -- are clearly indicative of late-nineteenth century styles, shapes (including mouth shapes), and colors. The sun-colored "amethyst" bottle-glass fragments in the collection indicate manufacture using manganese as a clearing agent, which is believed to have begun in the late 1870s and lasted through about 1920 (Rock 1981:17). The overwhelming majority of window glass fragments are of a thickness that various past studies would indicate were manufactured after 1850-60 and before 1880 (Chance and Chance 1976; Roenke 1978; Moir 1987). However, window-glass dating methods are still evolving and recent/current methods may be problematic; despite the fact that the 1850s-1870s date from the site's window glass, one should not place too much reliance on the assumed window-glass date (see Day 2001).

Based on the evidence from the roughly datable artifacts, the camp at CA-SIS-1801-H was likely occupied sometime between the very late 1870s and the mid-1880s. When combined with the

¹⁴ For thoughts on the putatively "early" (pre-1870s) date of Chinese-made "Double Happiness" rice bowl in the American Far West, see discussion in Section VI.

historical record for documented small-scale Chinese mining activity at Hawkinsville, an approximate date of ca. 1880-1885 is reasonable.

Some Dating Anomalies: A few of the artifacts appear to be from either well before or well after the 1880s date for the site.

The small fragmented bottle with the pontil base would have been hand-blown probably no later than 1870, more likely no later than 1860; however, some number of small bottles, such as those holding ink, may have been made with the pontil method into the 1870s (Rose p.c.). This and the fragmented-ceramic German mineral-water bottle are the sole artifacts from the site with manufacturing dates that could well be from the Gold Rush period; however, it is conceivable that an ink bottle could have been a long-term-use and re-fillable item, one that was carefully protected from breakage, particularly by a literate Chinese miner who might have written "letters back home" for himself and his colleagues. A thick-walled ceramic bottle, being somewhat more durable than a glass container, could have had a longer use-life as a container for various liquids.

The very few hand-wrought square nails could well date to the early 1850s, prior to the arrival of plentiful supplies of cut/square nails by means of freight wagons transporting supplies north from Red Bluff, then the main steamboat landing on the upper Sacramento River. Alternatively, an early Yreka-area blacksmith could have made these nails, which could have been quickly sold/used and subsequently salvaged/re-used elsewhere, such as at CA-SIS-1801-H.

Although some were being manufactured as early as the 1820s, common use of wire/round-shank nails dates to no earlier than about the 1880s, and they did not truly supplant cut/square nails as *the* standard wood fastener until the mid-1890s. However, these particular nails could well be early/mid-twentieth-century in age. The presence of barbed-wire fencing within the site area could easily account for their presence, as could other post-1895 livestock-ranching activities taking place nearby or the discard of items that may have been associated in time with disposal of the very nearby scattered remnants of household appliances. The .22-caliber cartridges could conceivably be the result of occasional target practice or hunting of jackrabbits on this brushy slope. In addition, a very few of the window-glass fragments that were collected have thicknesses that most likely date from the mid-twentieth century; these also are probably the result of mid-century refuse disposal by nearby residents.

On-Site Domestic Activities

Most obviously, the archaeological results indicate that Chinese miners occupied CA-SIS-1801-H site for the purposes of nearby placer mining, with their habitation of the site including such ongoing non-mining activities as food preparation, food consumption, smoking of opium

and tobacco, consumption of alcohol, and quite possibly gambling. The site's obvious trash deposit was probably situated close to whatever living shelter(s) also existed at the site.

These domestic features were situated a short distance directly upslope/above the ditch and small-capacity reservoir, which provided the water for the "ground sluicing" of the site's remnant of "high terrace" alluvial deposits just below the reservoir. This small, remaining deposit of ancient stream gravels was evidently the actual object of the mining. Daily domestic activities -- including cooking, eating, relaxing, and sleeping -- occurred immediately upslope of the mining complex. Here the miners could live "dry" above the periodic wash of mining water. In addition, from the work camp they could keep watch over their claim and equipment, observe approaching visitors and watch other mining operations nearby, and easily obtain necessary supplies from Hawkinsville or Yreka.

Time Span of Site Use/Number of People at Site

The actual extent and amount of material-culture debris that may have originally remained at CA-SIS-1801-H when it was abandoned cannot be known. Certainly, some relic collecting probably occurred by the 1920s-1930s and later. However, such collecting over the years most likely would have focused on whole or nearly whole items, such as bottles, bowls, coins, and the like. Further, it is very possible that most bottles and ceramics would have already been broken while the site was occupied, either during use or upon disposal by the site's occupants. Any subsequent relic collecting, of fragmentary items (e.g., Chinese ceramics), probably did not highly skew the minimum number of individual artifacts (MNIA) that was determined from the 1995 project. It is reasonable to assume that the quantity of artifacts recovered by the project is sufficiently representative of the original quantity of archaeological contents for this aspect of site analysis.

The assemblage includes fragments from about 25 European/Euro-American-made bottles, most of them formerly containing alcoholic beverages, medicines, and condiments, as well as one vial of Chinese medicine. The unmodified remnants of sheet-brass opium boxes represent at least eight (8) such containers; including the various cut/modified fragments in this count could increase the number to as many as twenty (20) such boxes, perhaps more. The Chinese-made tableware fragments represent a minimum of three vessels (each of them of a very different design/color), and the European/Euro-American ceramic fragments come from at least four different items (apparently a plate, two bowls, and possible bottle). Fragments of at least two different objects of CBGS ceramic containers were found.

How long was the site occupied, and by how many miners? For comparison, the site of a very briefly used work camp, one occupied by a small crew of Chinese digging a section of the Applegate Valley's ca. 1880s Klippel Ditch, was completely excavated by LaLande (1981). Portions of a total of no fewer than eight opium boxes were recovered from the site; fragments of a single Double Happiness rice bowl and no more than three CBGS food/soy-sauce containers

were also found. Some years later, a second Chinese work camp was discovered less than two miles away along the same ditch and was investigated as part of a university archaeological field school. Although the results from this particular project remain unpublished, the amount of material recovered was similarly very limited, totaling pieces from no fewer than six opium boxes and the remnants of four fragmented vessels of Chinese brown-glazed stoneware.

Based on contemporaneous newspaper accounts of the Klippel Ditch and other Applegate Valley mining-ditch construction projects, Chinese work crews were apparently divided into separate “section gangs” that each worked on a specific section of a ditch, camping at a given location nearby until work on that section was finished. Each section of ditch likely entailed a minimum of several weeks of labor for a crew to complete. The two Klippel Ditch work camps contained habitation features (e.g., small terraces excavated into the slope, likely for tents or small brush huts) that would have accommodated six-to-eight individuals. (Located much further distant from stores or other sources of supply than Hawkinsville, these two camps contained very little in the way of Euro-American bottle fragments.)

Comparing results from the Klippel Ditch work camps would indicate that CA-SIS-1801-H may well have been occupied for several months, perhaps by as many as half-a-dozen individuals or more. Other permutations of this scenario (i.e., a shorter time span with more people, or vice versa) are certainly possible. However, it would be reasonable to conclude that the site was probably occupied by a group consisting of no more than ten miners, who likely worked on the adjacent placer diggings over the course of a single mining season, or at most two seasons.

After including the amount of the site area’s “ground sluicing” placer evidence (i.e., feeder ditch, small-capacity reservoir, and the resulting mined-out excavation; all of it almost certainly contemporary with the Chinese occupation of CA-SIS-1801-H) as part of this time-span assessment, it would be reasonable to increase the site’s occupation to two mining seasons – two winter/spring periods of water available for this amount of mining (this aspect is discussed further in a sub-section below). However, because of the miners’ need periodically to allow the reservoir to re-fill with water, mining at the site may have been something of an “off-and-on” affair during the mining season(s).

Ethnicity and Cultural Interaction

There is little doubt that the occupants of CA-SIS-1801-H were indeed Chinese, and that most likely, as with most of the Overseas Chinese in the Far West, they came from the Pearl River Delta area of Guangdong province along China’s southern coast.

As is typical of many overseas Chinese sites, the collection of material recovered from Feature #1 shows that the site’s occupants consumed a small amount of imported Chinese foodstuffs that came in CGBS containers, eating their meals (largely rice with some bits of meat?) out of Chinese-made ceramic tablewares. The overwhelming prevalence of pig remains

in the faunal assemblage similarly indicates that traditional Chinese dietary preferences continued. However, the collection also demonstrates substantial interaction with local Euro-American merchants: with butchers for the sawed (not cleaver-chopped) cuts of meat and with store owners for the various bottled beverages, medicines, and /or condiments. Basic meals consisting of rice -- flavored with bits of pork, Chinese vegetables, and other contents -- probably would have been daily fare at CA-SIS-1801-H. (See LaLande 1981 and 1982 for a brief discussion of dietary customs of southeastern China.)

For the most part, the Hawkinsville Store records do not provide specific itemized purchases by the Chinese (called “companies” in the store ledger). Most of the accounts simply show the various Chinese customers’ regular payments as being for “freight”; this is in dramatic contrast to the store’s Euro-American customers (whose purchases are itemized and range from lead pencils, candles, lengths of calico, and ready-made shirts to salt, whiskey, brandy, beer, chewing or pipe tobacco, cigars, and canned oysters). It is possible, even probable, then that much of the Chinese customers’ orders of freight consisted of bulk rice, as well as possibly some imported Chinese foodstuffs (likely packaged in CBGS containers), opium, and other items that may have been ordered direct from Chinese-owned commercial establishments in San Francisco or elsewhere, or, more likely, ordered via Chinese merchants in Yreka. This freight very likely would have been transported north to Redding (during 1880-1883 the northern-most rail-head of the line still remained at Redding, where financial problems had kept it for the previous decade), and then brought by wagon to Yreka and Hawkinsville, with the store owners acting as final agents in the transaction. This situation could point to an on-going preference for dealing with Chinese merchants for large quantities of Chinese goods.¹⁵

Both the Chinese goods and the few non-Chinese goods that originated from as far distant as England and Germany clearly demonstrate that the Hawkinsville Chinese miners benefitted from a global transportation network – steamships and railroads -- for commercial goods. In 1880 they would have been located at the farthest end of one of that international web’s many threads.

The assemblage does show a relative paucity of imported Chinese-foodstuffs, i.e., food items that came to the Far West from China in CBGS ceramic containers. This is surprising given that the site is situated a comparatively short distance from Yreka, with its “Chinatown” that marketed various Chinese goods. This situation could have resulted from the miners’ need to remain on site while steadily working during each sequence of “ground sluicing.” The placer mining at CA-SIS-1801-H was made possible, but intermittently and for short periods of time, by the reservoir’s limited quantity of water. This small reservoir would have provided water that was only briefly available in amounts sufficient to enable rapid, water-assisted excavation and

¹⁵ *This interpretation contrasts with recent approaches that focus on evidence of Chinese immigrants’ voluntary, proactive acceptance of non-Chinese aspects of Euro-American material culture. Surely both aspects of exchange could have operated simultaneously and selectively, and those Overseas Chinese merchants who were comparatively well-settled in urban settings may have been somewhat more likely to choose to incorporate consciously certain non-Chinese ways and means into their lives.*

gold recovery from the otherwise “dry diggings.” Meals prepared at the CA-SIS-1801-H work camp may have, of necessity, been kept simple. (Other recovery methods, such as flotation, might have yielded additional dietary evidence.)

The practice of opium smoking arrived directly from China, as did huge quantities of the packaged substance itself. The occupants of the site evidently indulged in opium smoking regularly. Traditional Chinese medicinal treatment is hinted at by presence of the apparent medicine vial. Smoking of tobacco was also well established in nineteenth-century China; however, the tobacco pipes used by the inhabitants of the site were not the small, brass bowl/glass mouthpiece pipes from China but were of Euro-American/European manufacture -- possibly purchased locally.¹⁶

Alcohol consumption appears to have been a regular activity by the crew of miners at CA-SIS-1801-H; rather than traditional Chinese intoxicants, a variety of Euro-American beverages (both fermented and distilled) seem to have been far more commonly enjoyed.

The two Chinese coins and perhaps some of the round-cut/perforated pieces of opium-box brass could indicate that games of chance such as fan tan occurred on site; however, Farris (1979, 1980) posits that Chinese coins circulated as currency among the Chinese of Yreka and in other Far West Chinese communities; note that this supposition has been challenged by others (see Greenwood 1996:99).

Architecture

One cannot say with absolute certainty whether or not there were actually any structures located at CA-SIS-1801-H, let alone what number, size, shape, and construction type they may have been. Nevertheless, the several large “flat” rocks recorded as being scattered near/at Feature 1, are of the size/shape to have served as footing stones for a structure. More importantly, the large number of nails recovered from Feature 1, as well as the window-glass fragments and the keyhole doorplate, definitely point towards at least one wooden structure having been on site, and then later dismantled.

The following discussion is, of course, virtually all supposition: The quantity and size ranges of the cut/square nails and of the window glass are compatible with their use in building at least one small wood-frame structure. Such a structure, perhaps used for living quarters, could have employed a very simple form of balloon-frame construction or even simpler box-frame construction (which would have required fewer large nails). Either one of these framing

¹⁶ The “Turk’s Head” pipe bowl, which contained charred remnants of what is assumed to have been tobacco, was sent to a U.S. Department of Justice laboratory to test for residue of opiates; no such evidence was detected.

types would have accommodated “board-and-batten” wall siding, an inexpensive type of wall sheathing that was often employed in mining camps by both Euro-American and Chinese residents when rough-cut milled-lumber boards were available. The lack of plentiful, short roofing nails may indicate that neither shakes nor shingles were used for the roof. Instead, alternately overlapping boards (possibly held in place by a few cross-boards weighted down by heavy rocks) could have provided adequate protection from rain and snow. Alternatively, the roof could have been of canvas stretched over the wooden walls. Some of the assemblage’s cut pieces of brass sheet may have served as (or been intended for) patching holes in a structure’s floor or walls, something that was also commonly done with pieces cut from Euro-American-produced tinned cans.

Some archaeological studies (e.g., LaLande 1981, Mead 1996) have explored the possible use of traditional Chinese *feng shui* geomancy in the lay-out of buildings at Overseas Chinese sites. *Feng shui* principles were commonly employed for upper-class family-residential compounds and for public buildings, as well as at ancestral-cemetery monuments in much of rural China. A major principle involved siting structures (or groups of structures) so that, whenever possible, at least the main building’s principle façade faced to the south, and, if feasible, the structure(s) should always occupy a south-aspect slope. Despite some attempts to demonstrate possible use of *feng shui*, an inescapable conclusion derived from relevant studies of Overseas Chinese sites is that on-the-ground use of geomancy for siting and construction in the Far West is problematic at best. Some of the supposed archaeological indications of such use can be more easily explained by the restrictions (i.e., the coincidence of some mining and ditch-digging camps simply being located on south-aspect slopes) of the actual terrain.

The upper-most portion of the ridge’s direct-south-aspect slope is situated extremely close to and an easy walk from Feature 1’s ridge-crest, level-to-east-aspect location. Siting a hypothetical structure on the 25-30% south-aspect slope would have required either excavation into the slope of a level, structural terrace or use of raised footings to enable construction of a level floor fully suspended above the sloping ground (which would have required use of heavy timbers for the floor plates/sills). No evidence of any excavated terraces (structural or otherwise) was noted at the site. Rather than employing geomantic principles, especially as a short-term work camp, far more practical matters (e.g., proximity to the mine, ease of use for daily-living purposes, a nearly level site with ability to benefit from early-morning sun, and with the feasibility of a north-facing doorway to provide shelter from prevailing winds), appear to have determined the siting of any structures at CA-SIS-1801-H.

Feature 1: A Primary or Secondary Deposit?

Overall, Feature 1 appears to be a secondary deposit of (largely domestic) refuse. This interpretation is based on the extreme density and spatial concentration of the deposit (as if most of the contents had been purposely carried to the feature for final disposal). This trash deposit may have been formed in ongoing stages/sequences, or -- perhaps somewhat more

likely -- the contents could have accrued during a single episode of disposal (or very few phases during a brief period of time).

It is possible that the site's occupants originally used the Feature 1 area for ongoing/occasional disposal of trash (i.e., as a primary deposit), but that a subsequent episode (e.g., soon after the site's abandonment) resulted in the rapid collection of and dumping of other items (some such objects could have simply been abandoned, intentionally or unintentionally, by the Chinese occupants; others could have been consciously considered by them to be trash).

The inferred disposal of structural components (e.g., lumber with nails) may have been done at the final stage or sometime later. However, the lack of large quantities of burned wood may indicate that any nearby buildings (or sluice boxes, etc.) were salvaged for lumber (with the removed nails being tossed onto Feature 1). If a large amount of wood was burned at Feature 1, the overall lack of burned/melted artifacts is puzzling.

A number of possible scenarios could account for the presence of Feature 1. These could include (a) the trash-deposit feature's origin being due completely to the actions of the site's Chinese occupants; (b) its origin resulting, soon after abandonment, solely/largely from some sort of rapid "clean-up" of to-be-salvaged buildings by subsequent visitors (non-Chinese miners?) to the site; (c) its origin resulting from various combinations of the "a" and "b"; or (d) various other possible explanations -- for example, site "clean-up" done some years (even a few decades) later by a nearby rancher, tearing down an abandoned structure (in which both livestock and rattlesnakes had been seeking shade) and removing the lumber for re-use.

Placer Mining at CA-SIS-1801-H

This report concludes that the artifacts recovered at CA-SIS-1801-H were very probably associated with Chinese gold miners who worked the nearby "high terrace" placer deposits that are situated downslope and less than 100 meters away to the north (i.e., Feature 4, the re-vegetated placer-mined cut that is located directly downslope, at the foot of the ridge's north-aspect slope, from Feature 1). This seems a far-more likely an explanation for a site being located here; ditch-digging camps, which were of short-term use, would have been situated close to water for drinking and cooking; whereas the location of CA-SIS-1801-H (which would not have direct access to water if it was a ditch-diggers' camp) provided for on-site control of diverting water from an existing ditch (and use of that ditch's water for cooking, etc.), as well enabling good visibility (and, thus, security) of the area being mined by the site's occupants.

How was this small area mined? "Ground sluicing" is a term often used to describe a particular form of placer mining. Typically, ground sluicing is substantially larger in scope than simple shovel/diversion-ditch work (that is, generally small-scale, manual placer mining done alongside streams, using water diverted from the stream to wash the gold-bearing alluvial gravels that are shoveled into a series of sluice boxes). Conversely, ground sluicing is on a much

smaller scale than the hydraulic placer mining that employs heavy iron and brass nozzles that emit a continuous blast of high-pressure water, delivered by high-elevation ditches, to excavate tons of soil and rock per day and move it into large sluice systems.¹⁷

Ground sluicing is employed when available water is scarce and thus must be impounded/stored in such a way as to provide a supply of water adequate for short bursts of manual, water-assisted mining. With the severe lack of stream water in the Hawkinsville diggings, anything more than small-scale, rainy-season, pick-and-shovel placer mining there required a supply of water delivered from long distances away (for example, the Yreka Ditch and Egbert Ditch). Much of this ditch-dependent mining around Hawkinsville was of the hydraulic variety, such as that done over the course of several years by the Yreka Creek Mining Company on the Long Gulch/Canal Gulch "flats" to the northwest of CA-SIS-1801-H. However, the mining done at CA-SIS-1801-H -- while it, too, would have used (relatively small amounts of) water diverted from the Yreka or Egbert ditches -- appears, by necessity, to have employed the ground-sluicing method.

Two early 1880s accounts from the Sacramento *Daily Union* confirm that water supply was a serious concern, a restrictive problem, at Hawkinsville: 9 April 1881: "The miners at Hawkinsville, Siskiyou county, are only able to work occasionally, owing to the lack of free water, there being no other, since the abandonment of the ditch along the west side of town, at present."; 23 May 1884: "The Big Ditch in Siskiyou county will be completed about the 1st of June, when the water will flow in a large body down to the mining claims at Hawkinsville."

The putative ground-sluicing system at CA-SIS-1801-H likely would have worked as follows: The small-capacity (and now barely discernable) feeder ditch would have periodically diverted small quantities of water (purchased from the owners of the large-capacity hydraulic-mining ditch as an agreed-upon amount in miner's inches or another measure). The water may have been diverted from the main ditch down into the head of CA-SIS-1801-H's feeder ditch by means of a headbox or other means. Carried by the feeder ditch, essentially "at grade," from a diversion point located sufficiently upstream on the large ditch, the water then fed into the approximately 800-1,000-cubic-meter-capacity hand-dug storage reservoir (Feature 3). The reservoir might have taken several days to fill before the diversion was shut off at the main ditch.

As the reservoir filled, the miners would have worked in the diggings immediately below: creating new or restoring old channels within the excavated area for the water to flow, setting up the sluice system, excavating and stockpiling at least some amount of alluvial deposits to be shoveled into the sluice while the water came down, and so forth.

¹⁷ The term "ground sluice" is also sometimes used to denote a kind of placer gold-recovery method that, instead of employing the usual wooden-trough sluice box, uses a narrow groove or channel in the surface of bedrock as a natural sluice.

A typical ground-sluicing operation involved only a handful of miners; they needed to work together strategically (each with a well-understood task) so as to achieve the most benefit from the briefly available and limited supply of water. Even a single individual could undertake ground-sluicing by means of a "self-shooter" at a dammed impoundment situated well up a gulch or draw that had a seasonal stream. Over the course of weeks, the stream would gradually fill the reservoir, which was often impounded by a wooden-board dam, similar to the "splash dams" of early log drives. When filled and the miner was ready to use its water at the diggings, located some distance directly downslope, the dam outlet's self-shooter was "set." This mechanism was often merely a large bucket suspended by cable or rope from a lever that was in turn attached to the top of a watergate/outlet at the base of the dam. A self-shooter was "set" when a narrow trough was properly positioned and began feeding water from the reservoir into the suspended bucket. As the bucket filled, a solitary miner would hurry back down to the placer mine and await the arrival of water. When sufficiently heavy with water, the bucket began dropping, pulling the connected lever downward, which in turn pulled the dam outlet's gate upward, triggering the sudden release of the reservoir's water.

Because the reservoir at CA-SIS-1801-H is located upslope from the area to be mined, and because the operation almost certainly engaged several individuals, a self-shooter would not have been necessary. In addition, the reservoir does not occupy a stream course bordered by steep slopes; its basin was hand dug, shallow, and depended on intermittent diversions of water brought by ditch from elsewhere. At a point on the ditch directly above the reservoir, water may have been diverted into a small-diameter penstock leading to the reservoir. Most likely the reservoir's earthen dam had a wooden-frame outlet that was possibly lined with boards and then covered with mud prior to filling of the reservoir. When ready for mining, a short spell of digging away the mud and quickly removing the boards would release the supply of water. The ground-sluice miners stationed below, within the mine itself, had to be well-prepared, quick, and efficient in their movements while the limited amount of water assisted them in a comparatively short burst of actual mining activity. (At some point, most likely during the Great Depression and the early Post-WWII years, local placer miners apparently used a moveable trommel device -- termed a "doodlebug," which mimicked the process used by large gold dredges on rivers—to mine more of the high-terrace deposits near Feature 4.)

If the agreement with the owner of the ditch water permitted, another period of water diversion and impoundment might soon follow. Such sequences could well have resulted in the comparatively small placer-mining excavation that is present at the site today. Mining at the site eventually halted permanently -- possibly because the amount of gold recovered proved insufficient to continue the work, or because the water supply was cut off, or because the Chinese were driven off by Euro-American miners.

Assuming that the Chinese occupation at Feature 1 and the mining evidence at Feature 4 are in fact directly associated, the situation seems to reflect a very marginal-return form of placer mining. Perhaps by this time some of the local Chinese miners had either (a) exhausted richer claims nearby and thus used ground-sluicing to glean this high-terrace deposit or (b) they had been effectively pushed away by Euro-American mining companies and/or small

partnerships of Portuguese-immigrant and other Euro-American miners from more lucrative deposits, yet they were allowed to continue to work on marginal ground.

VIII. Conclusions

As with so many interpretations of archeological data, those that are presented in the previous section are based on a tentative, even rickety “scaffold” built of assumptions – scaffolding that may not support a great deal of weight. Surely, these interpretations are subject to debate, revision, or complete discard. While acknowledging that contingency, some basic conclusions about CA-SIS-1801-H can still be made here.

This Chinese mining camp near Hawkinsville, in north-central Siskiyou County, California, was used by a small group of individuals sometime during the ca. 1875-1885 period, and for a comparatively short period of time, perhaps a matter of weeks, a few months, or parts of a couple of seasons. It was occupied (possibly intermittently, during periods of available water) while the miners ground-sluiced the high-terrace placer deposits located very nearby.

This site – as one that encompasses a very limited area and was of short duration – more likely was used by a small, cooperative company of self-employed men engaged in ground-sluice mining, and not by wage-paid employees of a large company (whether Chinese or Euro-American-owned) for purposes of nearby mining-ditch construction or hydraulic mining.

The assemblage from CA-SIS-1801-H, while obviously unique to the site, is similar in many respects to other Overseas Chinese work camps. It therefore contributes additional data for the broader study of Overseas Chinese activities in the Far West. The 1995 work appears to have resulted in recovery of a substantial sample of the site’s trash feature. With the site now in private ownership, further professionally directed archaeological investigation there is unlikely.

The individual identities of the Chinese miners at CA-SIS-1801-H will almost certainly remain forever unknown. However, we can surmise that they quite likely belonged to one of the small Chinese companies that are documented (with the original phonetic spelling by writers in English) for the Hawkinsville vicinity in the early 1880s: Ah Toy and company, Ah Yop [Yap] and company, Ah Pone and company, Ah Yuk and company, Fong and company, Hong Fook and company, Fo Loba and company; or they possibly included one or more of the only three Chinese customers that are shown in the Hawkinsville Store’s records as purchasing items as individuals rather than as representatives of a “company”: Goom Soom, Hop Chung, and Big You.

Whatever their names may have been, it is virtually certain that the miners at CA-SIS-1801-H travelled thousands of miles from the Pearl River Delta of Guangdong to remote Siskiyou County, and that they each arrived with personal hopes to gain wealth in the form of gold. At least some of these men likely subsequently returned to China to live out for the rest of their lives, carrying with them memories – pleasant and/or unhappy – of a time spent in *Gum Shan*.

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Appendix A:

Analysis of Faunal Materials

INTRODUCTION

The potential application of faunal analysis to historic sites archaeology is to elucidate such behavior as animal husbandry practices, dietary preferences or limitations, trade of meat (or animals) between producers and consumers, ethnicity, and socio-economic status (Bayham, et al. 1982; Crabtree 1990; Huelsbeck 1989; Jolley 1983; Lyman 1987; Reitz and Scarry 1985; Schulz and Gust 1983). The primary issue concerning this analysis is an examination of the relationship between the meat units represented by the skeletal elements and the corresponding rank of those meat units for domesticated livestock. Secondly, identification of the ethnicity of the butcher and the consumer is suggested by two different lines of thought: the relative proportions of different animals, both domesticated and wild, and the technology used to disarticulate the animal.

METHODS

The Hawkinsville Haven faunal material was recovered from four excavation units (1, 2, 3, and 5), however, Unit 5 contained the bulk of the remains. Units 1, 2, and 3 contained very small amounts of bone (5, 112, and 6 items), consequently, this analysis centers on the cumulative pattern of historic animal exploitation. All material from Unit 5 was dealt with in total as stratigraphy was not noted at the time of excavation (Ritter, personal communication).

The material was quantified using numbers of identifiable specimens (NISF) which is derived from the summation of the total number of skeletal elements assigned to each animal taxa. Another quantification method involves calculating the minimum numbers of individuals (MNI), which is derived from counting the most abundant skeletal element(s) of each species at each site/component. Lyman (1979:540) notes that when dealing with historically-deposited faunal assemblages, it is important to consider that meat was mostly purchased in butchering units, or discreet anatomical parts, such that they do not represent the consumption of the entire carcass, but selected portions. Consequently, MNIs are not an appropriate level of quantification for this assemblage.

The vertebra taxa identifications were made using the zooarchaeological collections housed at California State University, Chico. All of the faunal material was identified to genus and species when possible, or to a lesser classification as either family or order level. The other more general level of classification is class which was subdivided into body-size groups (i.e., large mammal). Each specimen was identified as to anatomical element, condition, side, and age/fusion. Other cultural or natural modifications noted included the presence of surface weathering, rodent gnawing, carnivore chewing, and degree of burning. Historic butchering marks were identified by Scott McCarthy of California State University, Sonoma, and noted as cut marks.

Meat Unit Analysis

Although the analysis was primarily motivated by an attempt to elucidate ethnicity through the identification of butchering patterns, it is apparent that any inquiry into historically-butchered faunal material should first address the quality of meat cuts present in the assemblage. In order to do this, the Bayham, et al. (1982) study of meat utility values from an historic faunal assemblage from a couple of city blocks in Phoenix, Arizona, was used. In that analysis, which is based on Binford's Generalized Meat Utility Index (1978:15-23), they illustrated Euro-American butchering patterns on the entire body of various domestic animals. Assuming that the desirability of certain

cuts of meat is reflected in the price of that cut, they designed a relative index in order to rank meat units.

In short, the method consists of first identifying the exact skeletal element, then classifying it in the appropriate meat (butchering) unit, and finally determining the rank of that meat unit. Because the goal of that system was to identify the exact meat unit, only identifiable skeletal elements were considered for examination (i.e., humeri), and the generalized category of longbone was not included. Low ranked meat units (low economic utility) were given low numbers, and high ranked meat units were given high numbers. The ranking system is basically the same for both data sets, however, the value for the highest ranked beef meat unit is 11, and that for pork is 7. Table 1 shows the relationship between rank and meat unit for beef and for pork.

Table 1: Generalized Economic Meat Utility Rank for Beef and Pork

Rank	Meat Unit: Beef	Meat Unit: Pork
1	Feet	Head
2	Hindshank	Feet
3	Neck	Picnic Shoulder
4	Plate	Boston Butt
5	Frontshank	Rib/Belly
6	Tail	Ham/Leg
7	Chuck	Loin
8	Rump	
9	Round/Buttock	
10	Ribs	
11	Full Loin	

From Bayham, et al. (1982), Tables 5 and 7, Generalized Meat Utility Index for Beef and for Pork.

Although the highest numerical rank possible varies from beef to pork, the meat units basically follow the same pattern from the loin area as the highest ranked to feet and/or head as the lowest ranks. It is expected that the relative frequencies of the various meat units provide insight to the socio-economic status of the consumer.

HAWKINSVILLE HAVEN FAUNAL ASSEMBLAGE

The faunal assemblage of CA-SIS-1801-H contained a total of 1,792 items recovered from four excavation units, 93.1% from Unit 5. Mammals dominate the assemblage with 99.1% of the total. The assemblage consists of one bird taxa and two mammal taxa as shown in Table 2. Due to the fragmentary condition of the assemblage, the majority (76.5%) was relegated to family, order, or class levels. The mammals were further subdivided into body-size divisions of which large mammal (represented by *Bos taurus*, *Odocoileus hemionus*, and *Sus scrofa*), is the most common size with 97.1%. Only 23.5% (422 items) was identifiable to genus and species. A total of four specimens of *Gallus gallus* were identified, 27 specimens of *Bos taurus*, and 391 identifiable specimens of *Sus scrofa*.

Gallus gallus

Only .09% of the identifiable remains was classified as *Gallus gallus*: two tarsometatarsi, one carpometacarpus, and one humerus (Table 3). Burning was not evident on the material, rather, all elements appeared to be discolored. Presence/absence of fusion could only be determined for one element, the carpometarpus, which was unfused.

Because the tarsometatarsus is from the lower part of the leg which basically lacks musculature, it was usually discarded by Euro-American butchers. Cut marks on one item indicate the use of a knife in the preparation stage. The carpometacarpus also lacks meat, but contains a high amount of fat and skin. The humerus is the only meaty portion of the chicken represented here.

Bos taurus

Bos taurus comprises 6.2% of the identifiable remains. The majority of the *Bos taurus* material (16, or 61.5%) is leg elements including seven humerus fragments and nine longbone fragments. Other elements include six scapula, three vertebrae, and one rib. Only one element, a vertebra, had presence/absence of fusion, in this case it was absence. One rib fragment exhibited calcification, while the remaining 25 items were discolored.

Based on Bayham et al. (1982), Figure 1 shows the percentage of the ranked beef meat units for the 17 items identifiable to element. Equal proportions of the material is from a low (neck) and a medium (chuck) ranked meat unit with minor parts from high (ribs and full loin) ranked meat units. The cumulative majority of low and medium ranked meat units suggest an economic preference for those items.

The cut marks on all eight of the *Bos taurus* items which had historic butchering marks were attributed to hand saw use. This evidence suggests that beef was purchased for consumption from an Euro-American butcher.

Sus scrofa

A total of 391 *Sus scrofa* elements were recovered from SIS-1801-H. Dealing strictly with the identifiable remains, the combined head elements (cranium, mandible, teeth) dominate the *Sus scrofa* material with 93% (363). The remaining elements include 15 foot bones, seven vertebrae fragments, five leg elements, and one longbone fragment.

Of the 28 non-cranial *Sus scrofa* elements, nine items had evidence of presence/absence of fusion. Eight (88.8%) of those were unfused. In addition, the teeth lacked wear. These data suggest that most of the pigs slaughtered were immature/sub-adults. Burning is evident on 5.6% of the pig elements, but most of the material (91.8%) displays some discoloration, possibly the result of boiling.

The percentage of ranked meat units for pork is presented in Figure 2. The three lowest ranked meat units of head, feet, and picnic shoulder comprise the majority of the identifiable pig remains with 97.2% cumulatively. The remaining 2.8% consists of the highest ranked meat units of ham/leg and loin.

As was the case with the beef, the tool used to cut most of the pork bone was a handsaw. Three *Sus scrofa* items displayed handsawn cuts and only one item, a distal femur, had cut marks from an ax.

DISCUSSION

The problem with the identification of ethnicity centers on, as Schuyler (1980:vii) noted, "defining ethnicity and recognizing it in the archaeological record." Two faunal variables believed to directly apply to the identification of ethnicity are the relative importance of the species present and butchery patterns (Crabtree 1990:178). The Euro-American community's characteristic preference for beef is the basis for several examinations of the identification of socio-economic status based on identifiable cuts of beef

in the archaeological record (Gust 1984:183; Schmitt and Zeier 1993:22; Schulz 1979; Schulz and Gust 1983a; 1983b; and Staski 1993:140). Faunal assemblages from Chinese historic sites are characterized as containing mostly pork (fresh and salted/pickled), with beef, chicken, and other game to a lesser extent (Gust 1984:188; Langenwaller 1980:104). In late 19th century El Paso, Anglo-Americans favored beef to the extent that the Chinese diet was easily distinguishable due to the veritable lack of beef and inclusion of "sea fauna, fowl, and pork" (Staski 1993:140).

Culturally-specific technologies are exemplified by cleaver- or saw-marks to on bone. Gusts' (1993:193) examination of five historic Chinese sites shows that pigs commonly exhibited cleaver marks with 20-40% compared to 10% of cattle. A relationship between the technology and the preference for this type of meat is further supported by the Lower China Store faunal assemblage which contained almost 95% pig remains (Langenwaller 1980). The butchering technology of the Euro-Americans centered on the use of hand saws to the extent that the presence of saw-cut faunal material in identified Chinese-occupied sites can serve as an indication of trade for finished cuts of meat with the Euro-American community (Langenwaller 1980:105).

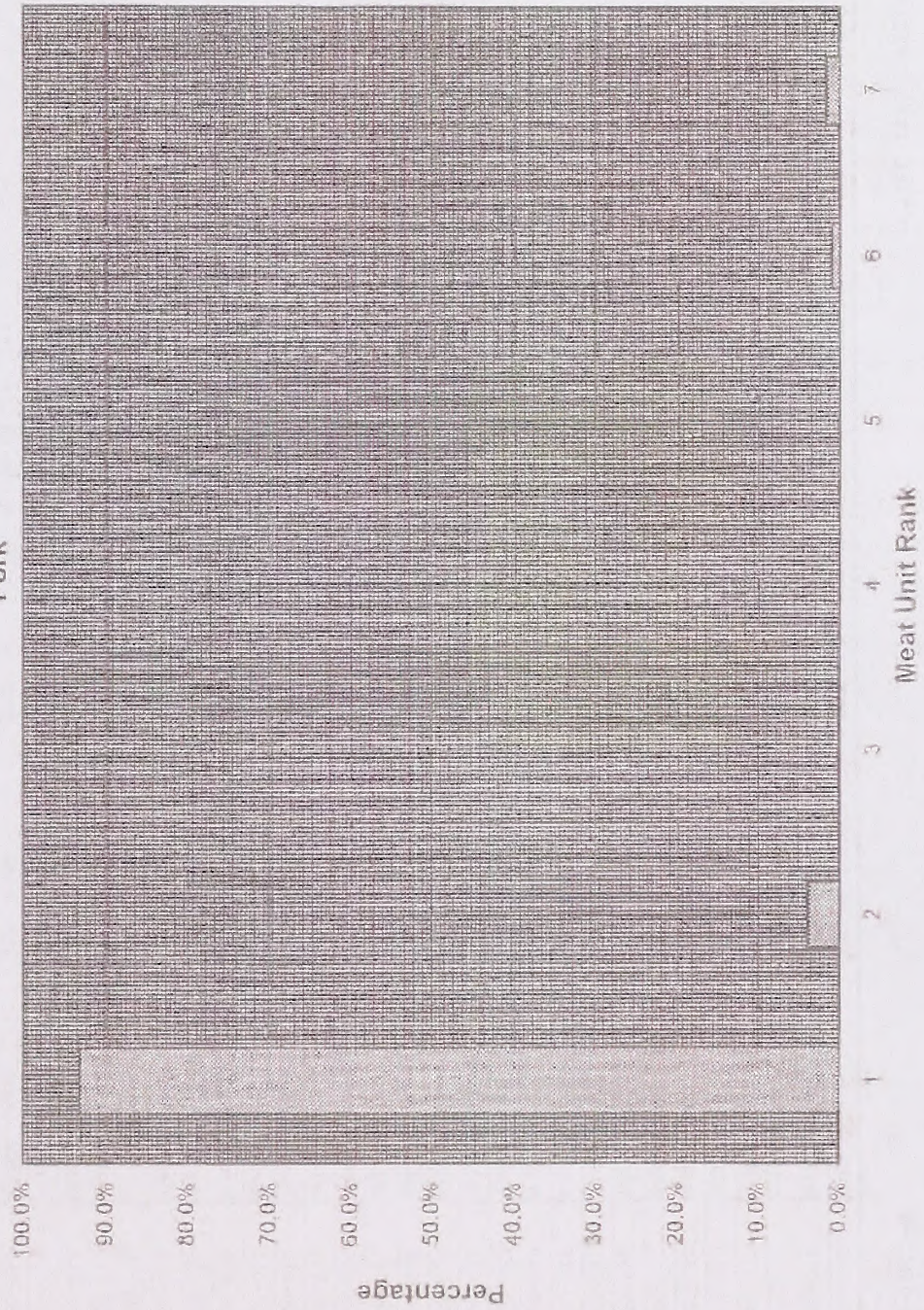
Beef bones from a Chinese privy in Jacksonville indicate that they were willing to expand their consumption of domestic meats from the traditional duo of pork and fowl (Lalande 1981:243-244). This is reflected at Hawkinsville Haven as indicated by the occurrence of beef which was probably also purchased from Euro-American butchers as suggested by the use of handsaws rather than cleavers. The cuts of meat purchased fit the low and medium ranked categories of meat units.

CONCLUSION

The Hawkinsville Haven faunal assemblage almost exclusively contains pork remains. Very little beef or chicken was identified in the faunal assemblage. In addition, the cuts represented by the pig remains were mostly low-ranked meat units, 97.2% cumulatively. Both the dominance of pork and the low-ranked meat units represented by the bone suggest that Chinese were probably present at the location, and were accountable for the character of the faunal assemblage. The abundance of pork cranial remains suggests that pigs were slaughtered nearby by Euro-American butchers, thereby making the low ranked heads accessible to the Chinese who preferred pork. The presence of hand-sawn to the exclusion of cleaver-cut bone (for both pork and beef) suggests that all meat was purchased from an Euro-American butcher.

The faunal data suggest that this site could have been a pig slaughter station which utilized an Euro-American butcher which would account for the abundance of pig cranial fragments relative to all other skeletal elements represented in the assemblage. However, the presence of numerous Chinese artifacts such as opium tin pieces, opium pipe sherds, Double Happiness sherds, Celadon ware sherds, and glazed brownware sherds, in addition to Euro-American artifacts all situated in and around a cabin foundation (Eric Ritter, personal communication 1996) suggest that this was a possibly a Chinese habitation site associated with historic mining activities. CA-SIS-1801-H has potential to add significant insight to the local and regional research issues regarding the effects of the Chinese mining community on the region.

CA-Sis-1801-H
Figure 2: Percentage of Ranked Meat Units
Pork



5	000-010	AVES. MEDIUM	UNIDENTIFIABLE	FRG	0	0	2	0	0	0	3	1	
5	000-010	BOS TAURUS	SCAPULA	FRG	0	0	2	0	0	0	2	3	BLADE STEAK
5	000-010	BOS TAURUS	HUMERUS	PRX	0	0	2	0	0	0	2	3	CHUCK STEAK
5	000-010	BOS TAURUS	HUMERUS	MED	0	0	2	0	0	0	2	3	CHUCK/POT ROAST
5	000-010	BOS TAURUS	RIB	MED	0	0	2	0	0	0	2	2	CUT AT BOTH ENDS
5	000-010	BOS TAURUS	VERTEBRAE. LUMBAR	FRG	0	0	2	0	0	0	2	3	PORTERHOUSE STEAK
5	000-010	BOS TAURUS	HUMERUS	PRX	0	0	2	0	0	0	2	3	STEAK
5	000-010	BOS TAURUS	LONGBONE	FRG	0	0	2	0	0	0	2	3	STEAK
5	000-010	BOS TAURUS	LONGBONE	FRG	0	0	2	0	0	0	2	3	STEAK
5	000-010	BOS TAURUS	LONGBONE	FRG	0	0	2	0	0	0	2	3	STEAK
5	000-010	BOS TAURUS	LONGBONE	MED	0	0	2	0	0	0	2	3	STEAK
5	000-010	BOS TAURUS	VERTEBRAE	MED	0	3	2	0	0	0	2	3	RIB STEAK
5	000-010	GALLUS GALLUS	TARSOMETATARSUS	MED	L	0	2	0	0	0	2	3	SNAPPED @ 1 END, CUTMARKS
5	000-010	GALLUS GALLUS	HUMERUS	DST	L	0	2	0	0	0	0	3	1
5	000-010	GALLUS GALLUS	TARSOMETATARSUS	DST	R	0	2	0	0	0	0	3	1
5	000-010	GALLUS GALLUS	CARPOMETACARPUS	MED	0	3	2	0	0	0	0	3	1
5	000-010	MAMMAL. LARGE	FLAT BONE	FRG	0	0	2	0	0	0	2	3	2
5	000-010	MAMMAL. LARGE	LONGBONE	FRG	0	0	2	0	0	0	2	2	1
5	000-010	MAMMAL. LARGE	LONGBONE	FRG	0	0	2	0	0	0	2	3	2
5	000-010	MAMMAL. LARGE	LONGBONE	FRG	0	0	4	0	0	0	2	3	2
5	000-010	MAMMAL. LARGE	ACETABULUM	MED	0	0	2	0	0	0	0	3	1
5	000-010	MAMMAL. LARGE	CANCELLOUS	FRG	0	0	2	0	0	0	0	1	11
5	000-010	MAMMAL. LARGE	CANCELLOUS	FRG	0	0	2	0	0	0	0	2	23
5	000-010	MAMMAL. LARGE	CANCELLOUS	FRG	0	0	2	0	0	0	0	3	439
5	000-010	MAMMAL. LARGE	CRAIUM	POS	0	0	2	0	0	0	0	3	1
5	000-010	MAMMAL. LARGE	FLAT BONE	FRG	0	0	2	0	0	0	0	1	3
5	000-010	MAMMAL. LARGE	FLAT BONE	FRG	0	0	2	0	0	0	0	2	8
5	000-010	MAMMAL. LARGE	FLAT BONE	FRG	0	0	2	0	0	0	0	3	126
5	000-010	MAMMAL. LARGE	LONGBONE	FRG	0	0	2	0	0	0	0	1	2
5	000-010	MAMMAL. LARGE	LONGBONE	FRG	0	0	4	0	0	0	0	1	3
5	000-010	MAMMAL. LARGE	LONGBONE	FRG	0	0	2	0	0	0	0	2	9
5	000-010	MAMMAL. LARGE	LONGBONE	FRG	0	0	4	0	0	0	0	2	20
5	000-010	MAMMAL. LARGE	LONGBONE	FRG	0	0	2	0	0	0	0	3	450
5	000-010	MAMMAL. LARGE	LONGBONE	FRG	0	0	4	0	0	0	0	3	52
5	000-010	MAMMAL. LARGE	LONGBONE	FRG	0	0	4	0	0	0	0	3	2
5	000-010	MAMMAL. LARGE	LONGBONE	FRG	0	0	2	0	0	0	0	2	3
5	000-010	MAMMAL. LARGE	LONGBONE	FRG	0	0	2	0	0	0	0	2	7

5	000-010	MAMMAL. LARGE	LONGBONE	ERG	0	0	2	0	0	3	3	5	
5	000-010	MAMMAL. LARGE	RIB	ERG	0	0	2	0	0	0	1	3	
5	000-010	MAMMAL. LARGE	RIB	ERG	0	0	2	0	0	0	2	4	
5	000-010	MAMMAL. LARGE	RIB	ERG	0	0	2	0	0	0	3	10	
5	000-010	MAMMAL. LARGE	RIB	MED	0	0	2	0	0	0	3	1	
5	000-010	MAMMAL. LARGE	RIB	MED	0	0	2	0	0	0	2	3	1
5	000-010	MAMMAL. LARGE	UNIDENTIFIABLE	ERG	0	0	4	0	0	0	3	2	
5	000-010	MAMMAL. LARGE	VERTEBRAE	ERG	0	0	2	0	0	0	3	2	
5	000-010	MAMMAL. LARGE	LONGBONE	ERG	0	2	4	0	0	2	2	1	?
5	000-010	MAMMAL. LARGE	EPIPHYSES	MED	0	3	2	0	0	0	3	2	
5	000-010	MAMMAL. LARGE	VERTEBRAE	MED	0	3	2	0	0	0	3	1	
5	000-010	MAMMAL. MEDIUM	CANCELLOUS	ERG	0	0	2	0	0	0	3	2	
5	000-010	MAMMAL. MEDIUM	CRANIUM	ERG	0	0	2	0	0	0	3	1	
5	000-010	MAMMAL. MEDIUM	LONGBONE	ERG	0	0	1	0	0	0	3	2	
5	000-010	MAMMAL. MEDIUM	LONGBONE	ERG	0	0	2	0	0	0	3	2	
5	000-010	MAMMAL. SMALL	SCAPULA	MED	0	3	2	0	0	0	3	2	
5	000-010	MAMMALIA	UNIDENTIFIABLE	ERG	0	0	2	0	0	0	3	1	
5	000-010	SALICORNID	VERTEBRAE	MED	0	0	2	0	0	0	3	1	
5	000-010	SUS SCROFA	VERTEBRAE, THORACIC	MED	0	0	2	0	0	2	1	1	BLADE CHOPS
5	000-010	SUS SCROFA	VERTEBRAE, THORACIC	MED	0	0	2	0	0	2	3	2	BLADE CHOPS
5	000-010	SUS SCROFA	CALCANEUS	PRX	L	0	2	0	0	0	3	1	HAM: SHANK PORTION
5	000-010	SUS SCROFA	FEMUR	DST	L	0	2	0	0	0	3	1	HAM: STEAKED
5	000-010	SUS SCROFA	HUMERUS	MED	L	0	2	0	0	2	3	1	PICNIC HAM: PRX=HNSW, DST=SNAP
5	000-010	SUS SCROFA	CARPAL/TARSAL	NCM	0	0	2	0	0	0	3	1	
5	000-010	SUS SCROFA	CRANIUM	ERG	0	0	2	0	0	0	2	2	
5	000-010	SUS SCROFA	CRANIUM	ERG	0	0	2	0	0	0	3	107	
5	000-010	SUS SCROFA	CRANIUM	MED	0	0	2	0	0	0	3	3	
5	000-010	SUS SCROFA	CRANIUM	POS	0	0	2	0	0	0	3	1	
5	000-010	SUS SCROFA	CRANIUM	PRX	R	0	2	0	0	0	3	2	
5	000-010	SUS SCROFA	MANDIBLE	ERG	0	0	2	0	0	0	3	7	
5	000-010	SUS SCROFA	METAPODIAL	PRX	0	0	2	0	0	0	3	1	
5	000-010	SUS SCROFA	PHALANGE.1	ANT	0	0	2	0	0	0	3	1	
5	000-010	SUS SCROFA	PHALANGE.1	DST	0	0	2	0	0	0	3	2	
5	000-010	SUS SCROFA	PHALANGE.1	NCM	0	0	2	0	0	0	3	1	
5	000-010	SUS SCROFA	PHALANGE.1	PRX	0	0	2	0	0	0	3	1	
5	000-010	SUS SCROFA	PHALANGE.2	WHL	0	0	2	0	0	0	2	1	

CA-SIS-1801-H

FAUNAL IDENTIFICATION CATALOGUE

[illegible]

FAUNAL IDENTIFICATION CATALOGUE

B-1 Fasteners

Site CA-SIS-1801-H



a



b



c



d



e



f



g



h



i



j

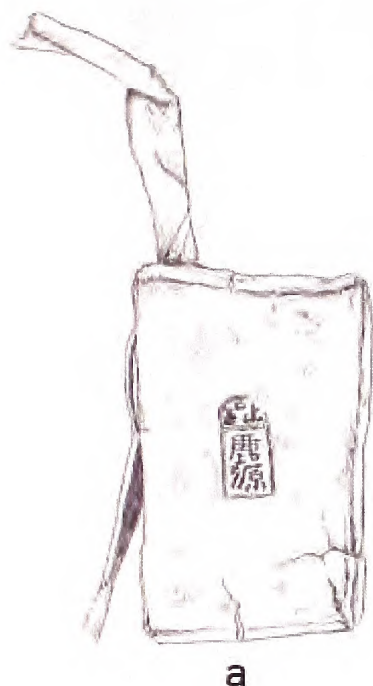


k

a., brass; "frog" -closure button (Chinese blouse); *b.*, through *e.*, Euro-American buttons; *f.*, "Prosser" (white glass) button; *g.*, brass (w/ shell inlay?); possible Chinese frog-closure button; *h.*, carved-bone button; *i.*, through *k.*, brass; suspender snaps

B-2 *Opium Tins*

Site CA-SIS-1801-H



a



b



c

a., brass; Chinese opium-box lid (the sole legible, lowest character is *Yuan*; translates as "Fountainhead" or "Source" [likely a trade name]); b., brass; opium-box lid (top part of cartouche translates as "high grade"; bottom portion as *Ling Yun* / "Tomb Clouds", probably a trade name); c., brass; opium-box lid (characters not translated).

B-3 Pipes
Site CA-SIS-1801-H



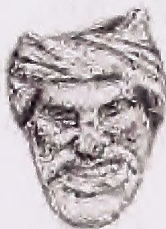
a



b



c



d

a., earthenware; fragment of Chinese opium pipe; *b.* through *c.*, earthenware fragments of faceted (poppy-blossom petals) opium pipe (the small portion of the stamped Chinese character is not sufficient to be read; *d.*, kaolin ceramic; three views of European or Euro-American "Turk's head" tobacco pipe.

B-4 Coins
Site CA-SIS-1801-H



a



b



c

a., brass; Chinese *wen/tongbao* coin (middle-late Ch'ing [Manchu] dynasty; Qian Long emperor);
b., brass; Chinese *wen/tongbao* coin (middle Ch'ing dynasty; K'ang Hsi emperor); *c.*, brass; part of a
pocket-knife handle.

B-5 *Bottles*
Site CA-SIS-1801-H



a



b



c



d



e

a. through e., glass; Euro-American bottle-mouth fragments.

B-6 Ceramics

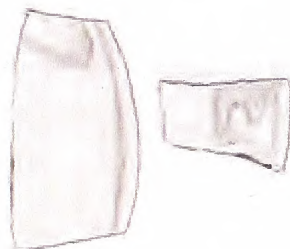
Site CA-SIS-1801-H



a



b



c

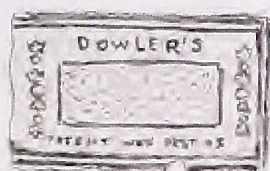
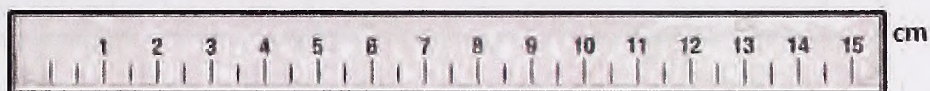


d

- a.*, porcelainous stoneware; cross-mended fragments of Chinese "Double Happiness" rice bowl; *b.*, porcelain; basal fragment of Chinese "wintergreen/celadon" tea cup or rice bowl; *c.*, porcelainous stoneware; rim fragments of Chinese "Bamboo" (or "Longevity") rice bowl; *d.*, glazed earthenware; fragment of German mineral-water bottle.

B-7

Site CA-SIS-1801-H



a

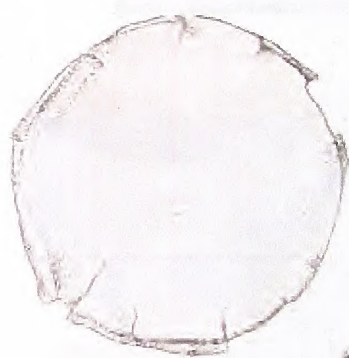


b

a., brass; "striker" end-piece of Dowler's match box (England);

b., brass and whitemetal; wick holder of whale-oil or kerosene lamp.

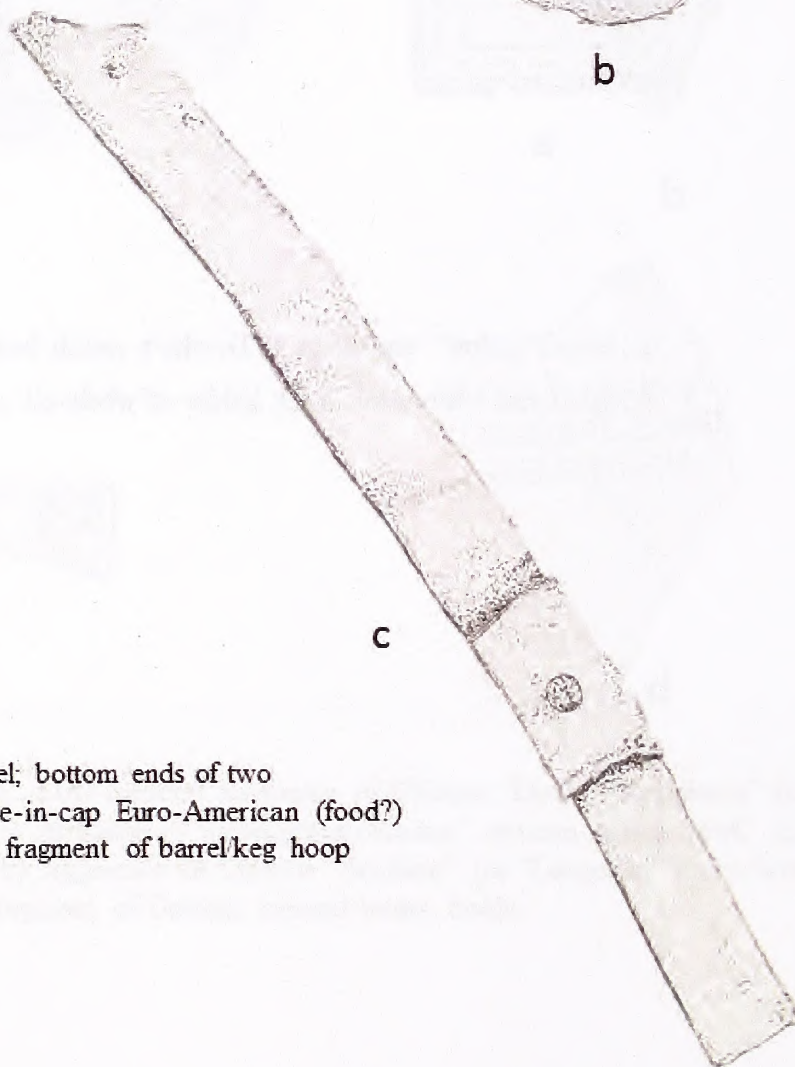
B-8
Site CA-SIS-1801-H



a



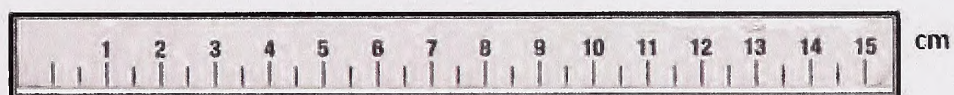
b



c

a. and *b.*, tinned steel; bottom ends of two
overlap-seamed/hole-in-cap Euro-American (food?)
cans; *c.*, strap iron; fragment of barrel/keg hoop

B-9
Site CA-SIS-1801-H



all: brass; purposely cut pieces of opium boxes
(the three square pieces were possibly meant for use as "funs" trays in the smoking of opium).

